

Hanwha Profile 2021



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"We engage and listen to our customers to create the solutions they trust us to build."

SEUNG YOUN KIM



Established in 1952, Hānwahā lifted hopes of our people amid the post-war ruins of the Korean war. Entrusted by the country, we could do no less than to commit ourselves to rebuilding the nation. The idea of doing business to give back became our philosophy—the “Hānwahā Path”—that we live by to this day, even during the most difficult times and uncertainties of an ever-evolving world.

At Hānwahā, building trust and expressing loyalty is part of everything that we do. Our customers trust us because we’ve earned their trust over time. As a result, we’ve become a company behind many of South Korea’s leading brands across defense, energy and financial services sectors. They’re all part of a new foundation we’re building toward sustainable development. We’re working to become pioneers of a new frontier for the next generation, the one that will sustain us.

Embrace new challenges and innovate to build a sustainable future.

We are changing our business infrastructure to improve our business value chains and our ability to secure future growth engines. We are also strengthening our global competitiveness across our existing core businesses while increasing strategic focus on new ones, such as green hydrogen energy, aerospace, future mobility, and digital finance. The pace at which we're executing on our strategies is matched only by the passion that drives our innovations and efforts to convert promising opportunities into next-generation realities.

Our chemical and energy businesses continue to profit from our deep expertise, bold investments, and R&D. We are diversifying our product portfolios with high-value-added and eco-friendly products to strengthen our foundation and grow even during market fluctuations. Our vertically integrated solar energy business leads the global market with our cutting-edge technology. Our technology is developed in-house, bolstered by continuous heavy investments in R&D and our pursuit of advanced renewable energy solutions. And as our hydrogen business evolves beyond the traditional singular industries, it will be part of our hydrogen economy ecosystem which will benefit from both collaboration and competition. We're investing USD 4.4 billion in related business sectors over the next five years and transforming ourselves into a global eco-friendly energy solutions provider. Our hydrogen business value chain will serve to be a powerful competitive advantage and with it, we intend to achieve net zero emissions worldwide.

In aerospace and mechatronics, we're investing more than USD 400 million in R&D to continue advancing our technology. Our technology allows us to stay ahead of the curve and excel even in the rapidly changing market. We're a trusted partner renowned for our world-class technology and quality in the global aircraft industry. Our reputation has been a strategic factor, influencing and strengthening trust that has led to a joint international development project to build high-value-added aircraft engines. In addition, we're making greater investments to further innovate collaborative robots and Smart Factory solutions in the Fourth Industrial revolution. We are also addressing the anticipated needs of this new era by providing global video security solutions that combine AI algorithms and advanced optical technologies.

By combining our deep expertise and experiences in defense, aerospace and mechatronics businesses, we're creating new business models. In 2021, we established Space Hub—a task force designed for research, development and investments across a wide spectrum of business areas to secure a leadership position in the space industry. One key initiative of Space Hub is the development of ultra-compact and lightweight satellites that will help us lead in the development of advanced technologies in the space industry. Also, as we continue to grow our future mobility business in the urban-air-mobility (UAM) market, we are anticipating measurable results that can reinforce our efforts to develop an ecosystem within the industry.

In financial services, HANWHA is continuing its success amidst the challenges of an evolving market because we cater to the needs of customers and applying consumer insights to our innovations. We're leveraging AI, Big Data, and blockchain technologies to create synergy between financial businesses, as well as further develop Fintech opportunities. At the same time, we're investing in Insurtech-based business models and digital asset management services. Furthermore, earlier in 2021, our six financial divisions jointly announced their "coal-free commitment" to reduce their CO₂ footprint while providing a better set of financial services.

At HANWHA, through our years of experience, expertise and brand values, we deliver differentiated experiences that cater to the evolving consumer lifestyle and residential living. Our multiplex development projects for mega-building complexes encompass residential, retail, office, commercial, and hotel spaces all in one place. Our measure of success isn't just to be known as a leader for well-designed cities but an organization that satisfies the needs of our customers and caters to their diverse lifestyles.

And as a conscientious corporate citizen, HANWHA continues to meet its ethical, legal, and economic responsibilities across all our business practices. We remain committed to our business philosophy that as a business we have a responsibility to do good.

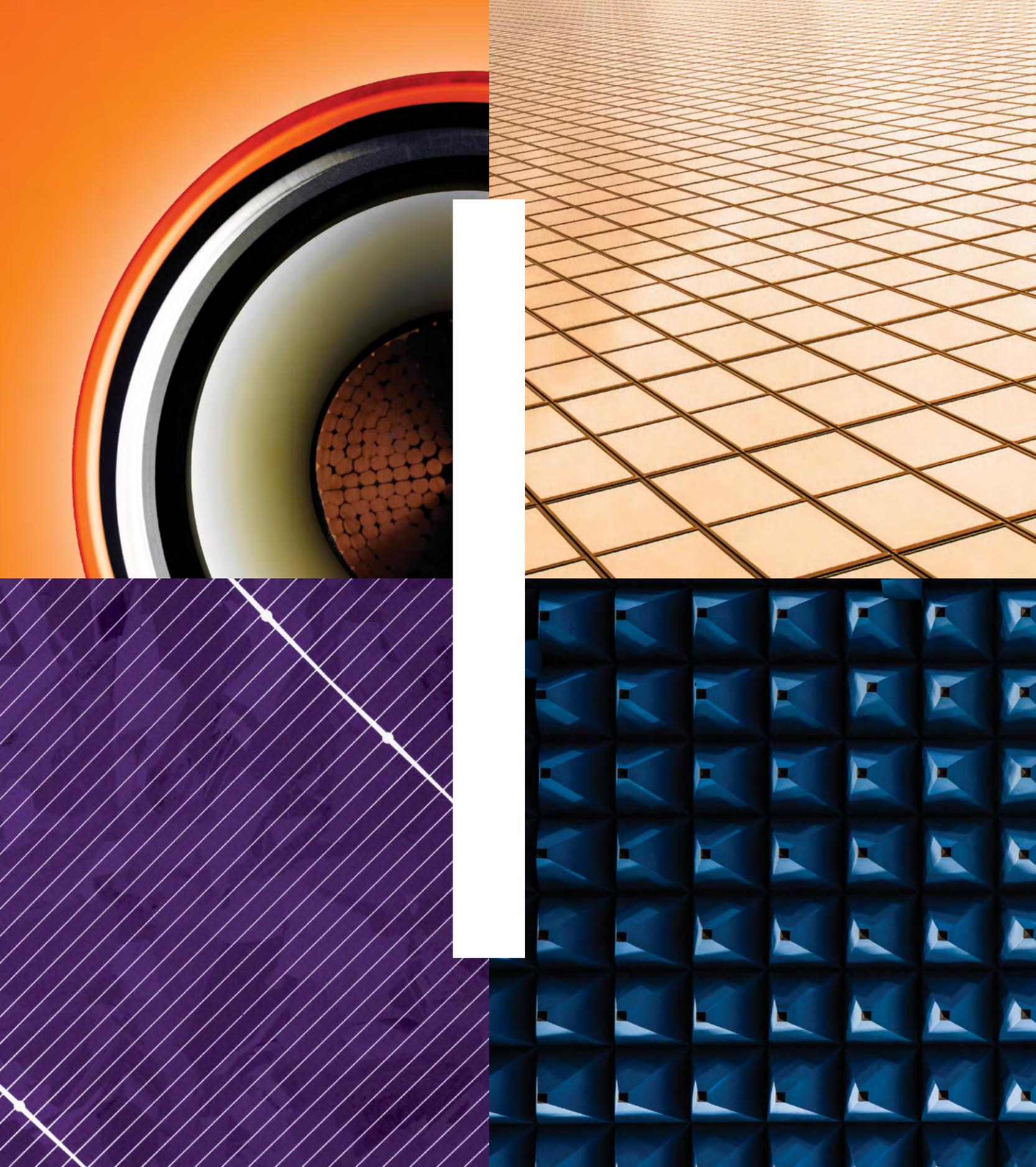
Therefore, we are increasing our social contributions and making efforts to improve our society. We sponsor social events and community activities to promote talent development, culture, the arts, sports, donations, and volunteering. And we extend our philosophy of "Going Further Together" to our partner companies so that we can co-evolve through collaboration, sharing and creating resources.

HANWHA remains committed to the UN's Sustainable Development Goals in resolving global environmental issues. To combat climate change and air pollution, we're producing clean energy solutions that can sustain our planet. Internally at HANWHA, our Compliance Committee is also aggressively working to maintain strict compliance and achieve the highest standards. And by establishing an independent and professional Environmental, Social and Governance (ESG) committee for HANWHA companies, we're elevating our sustainability management system to a global level.

Our world will continue to change. Whether it's the global climate issues or the pandemic, such problems and uncertainties only accelerate change. And while we may not have any control over them, we can still lead and work together. We must *prepare* for transformation. This is more important than ever given the emerging technologies and ever-changing landscapes. For it is imperative we not only adapt but we must also excel. Through innovation and building practical solutions that inspire, we will pave a path over the road less traveled. And we *will lead* the way.



Chairman
SEUNG YOUN KIM



BUSINESS HIGHLIGHTS

At **Hanwha**, we partner with our customers. We listen first and only then create solutions. And it is from the understanding of our customers with which we create the products and services that are changing how the world works, lives, and plays.



A vertical rectangular glass filled with water. A vibrant blue ink is being poured into the water from the top, creating intricate, swirling patterns. The ink spreads downwards, forming delicate, lace-like structures. The word "SEEK" is printed in a clean, white, sans-serif font across the center of the glass.

SEEK

A dark, almost black, reflective surface. Numerous small, clear, spherical droplets are scattered across the surface. Each droplet is perfectly round and reflects light, creating bright highlights and dark shadows. The word "FIND" is printed in a large, bold, white, sans-serif font across the middle of the image.

FIND

WE SEEK NEW TECHNOLOGIES WITH WHICH YOU CAN FIND NEW APPLICATIONS.

CHEMICALS & MATERIALS

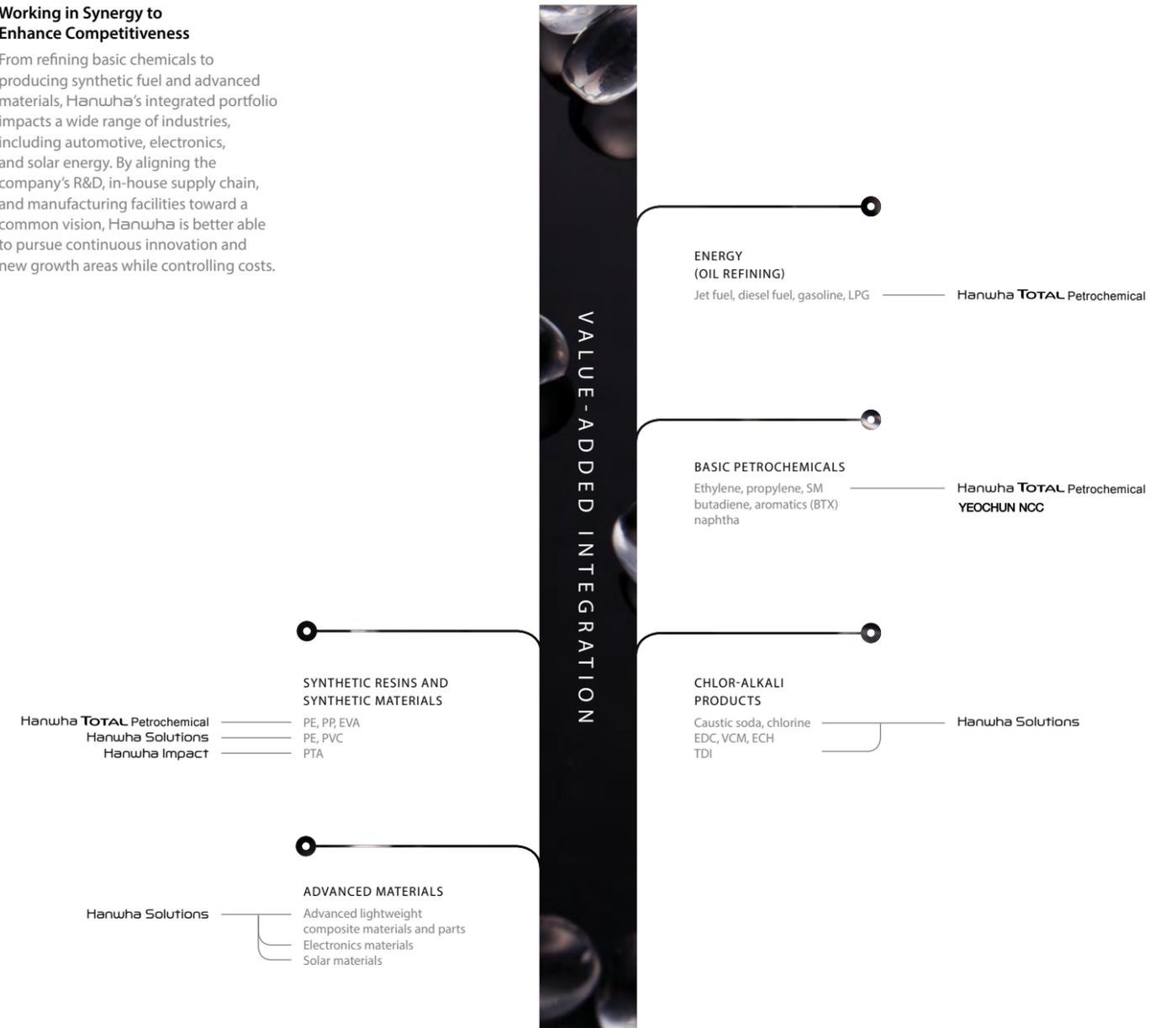
Hanwha researchers are leaders in their fields and passionate about innovating and exploring new ways to produce petrochemicals and advanced materials that our customers can leverage to push their own limits of what is possible in automotive engineering, solar energy, nanotechnology, and other fields. For example, our breakthrough process for producing the synthetic resin EVA is allowing companies to manufacture solar cells with higher purity, transparency, and efficiency at lower costs.

In the automotive industry, our revolutionary lightweight composite materials are prized for their durability and flexibility—comparable to steel in strength but with up to 25 percent less mass. This means cars can weigh less but perform better. These and other innovations provide greater value for our customers and attract partnership opportunities for Hanwha, worldwide.



Working in Synergy to Enhance Competitiveness

From refining basic chemicals to producing synthetic fuel and advanced materials, Hanwha's integrated portfolio impacts a wide range of industries, including automotive, electronics, and solar energy. By aligning the company's R&D, in-house supply chain, and manufacturing facilities toward a common vision, Hanwha is better able to pursue continuous innovation and new growth areas while controlling costs.



PETROCHEMICAL

A Leader In South Korea

Hanwha continues to be a leading producer in South Korea's petrochemical sector with total sales of USD 11.86 billion.

ETHYLENE

Petrochemical Powerhouse

Hanwha has an ethylene production capacity of over 3.82 million tons and is rapidly becoming a major player in this important market.

Hanwha **TOTAL** Petrochemical's
Daesan Petrochemical Complex





EVA

Global Leader

Hanwha has built a world-class ethylene vinyl acetate (EVA) production plant with an annual capacity of 710,000 tons.

By adopting new processes and investing in advanced facilities, we are developing high-value products that are helping to further increase our market share.



W&C COMPOUND

World-Class Innovation

After developing the W&C compound, an innovative polyethylene synthetic resin, for the South Korean market, Hanwha had in effect, freed the South Korean manufacturers from their dependence on imported resins for power transmissions and distribution cables.



PTA

Proven PTA Technology

With a purified terephthalic acid (PTA) production capacity of more than two million tons per year, Hanwha leads the domestic PTA market. As we continue to export our process technology, we are increasingly recognized around the world for technological prowess.



AUTOMOTIVE THERMOPLASTICS

70%
Global
Market Share

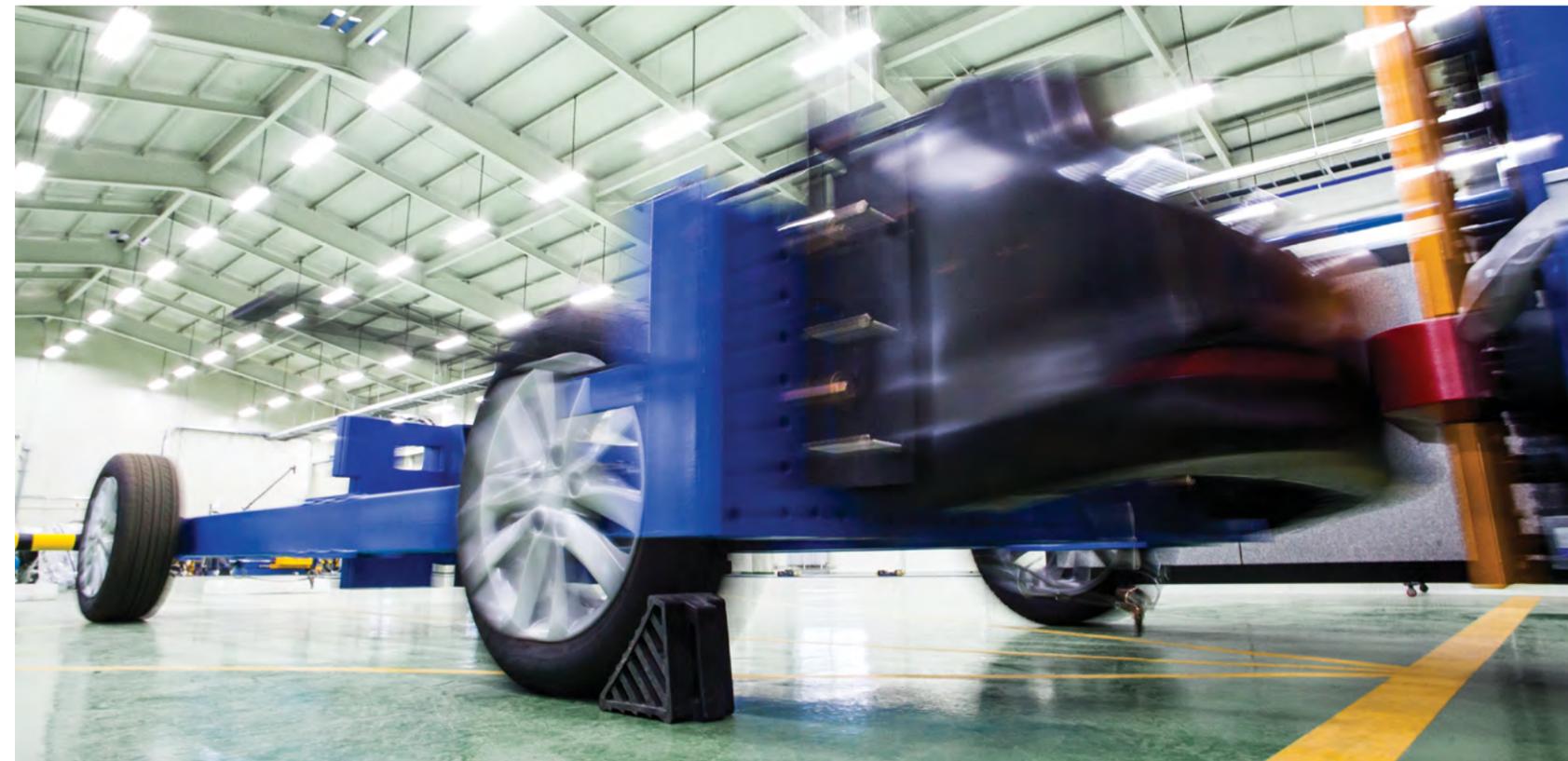
Hanwha StrongLite and SuperLite products now account for 70 percent of the global market in GMT (glass fiber mat-reinforced thermoplastics) and LWRT (low weight reinforced thermoplastics) technologies.



ELECTRIC VEHICLE BATTERY SOLUTION

Advanced
Eco-Friendly
Solution

Hanwha's new battery housing for eco-friendly electric vehicles and hydrogen tank for hydrogen fuel cell vehicles are examples of how Hanwha's innovative lightweight composite materials are being applied. These products are expected to lead the mobility market and raise the bar for other manufacturers. With cutting-edge products, we are leading the market and becoming a major supplier to global automakers. We are also developing new products with which to enter the battery sensing material market for electric vehicles. By expanding our ultra-high-pressure hydrogen tank business, a key component of hydrogen fuel cell vehicles, we are paving the way not just to sustainable growth but to a better future for all.





QUESTIONS



ANSWERS

WE HAVE THE ANSWERS TO THE QUESTIONS YOU HAVE FOR THE FUTURE.

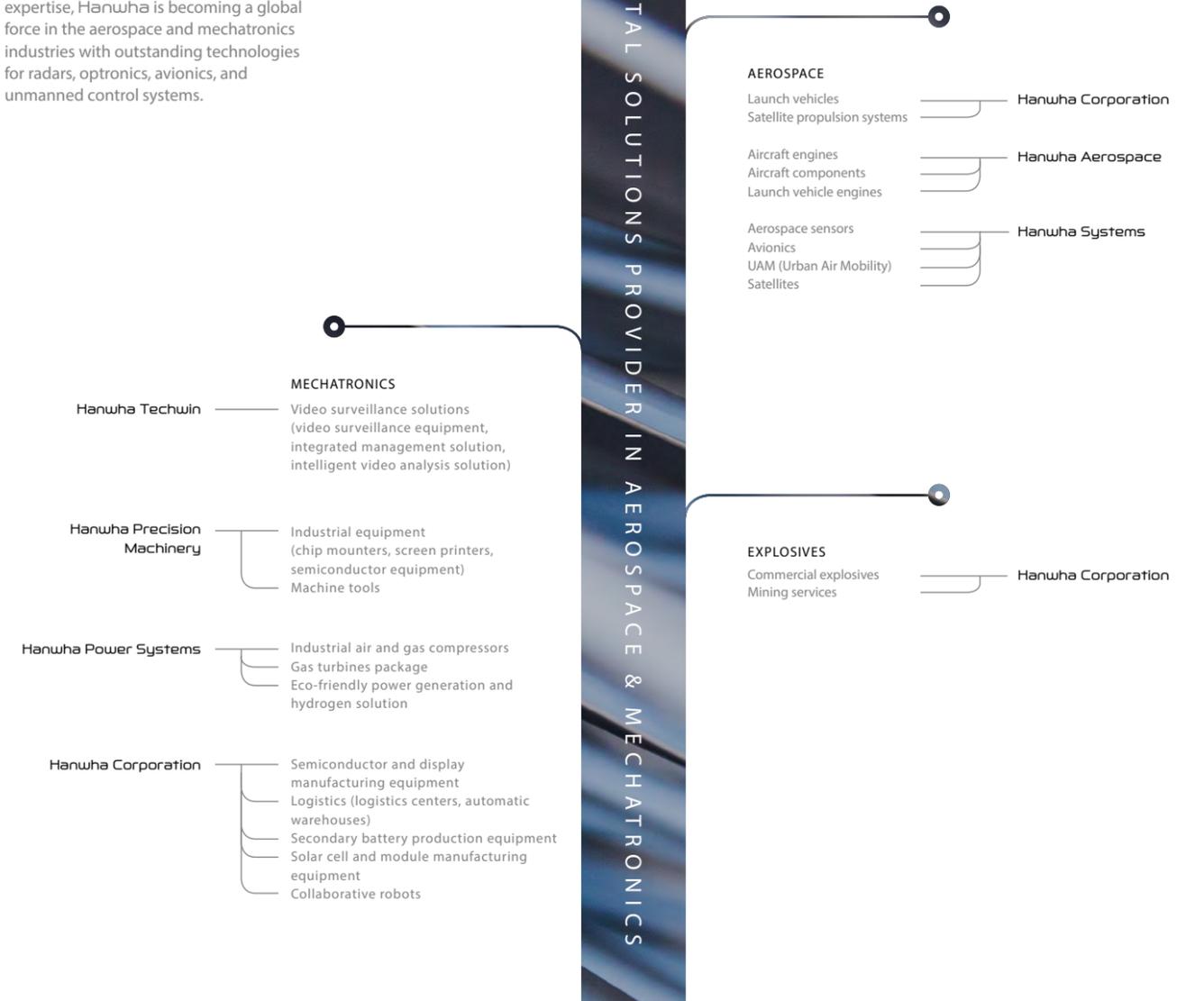
AEROSPACE & MECHATRONICS

From here on Earth for the skies above, Hanwha is developing world-class products in aerospace and mechatronics to help corporations and governments meet their future needs in manufacturing, commerce, security, and travel. And we continue to pursue technology partnerships with other leading companies and develop solutions that satisfy customers around the globe. By combining our deep expertise and experiences in defense, aerospace and mechatronics, our newly launched Space Hub leverages the latest trends in the private-led space industry.



Leading in Innovation and Expertise

We are the only company in South Korea with advanced aircraft engine technology. Through our innovations and industrial expertise, Hanwha is becoming a global force in the aerospace and mechatronics industries with outstanding technologies for radars, optronics, avionics, and unmanned control systems.



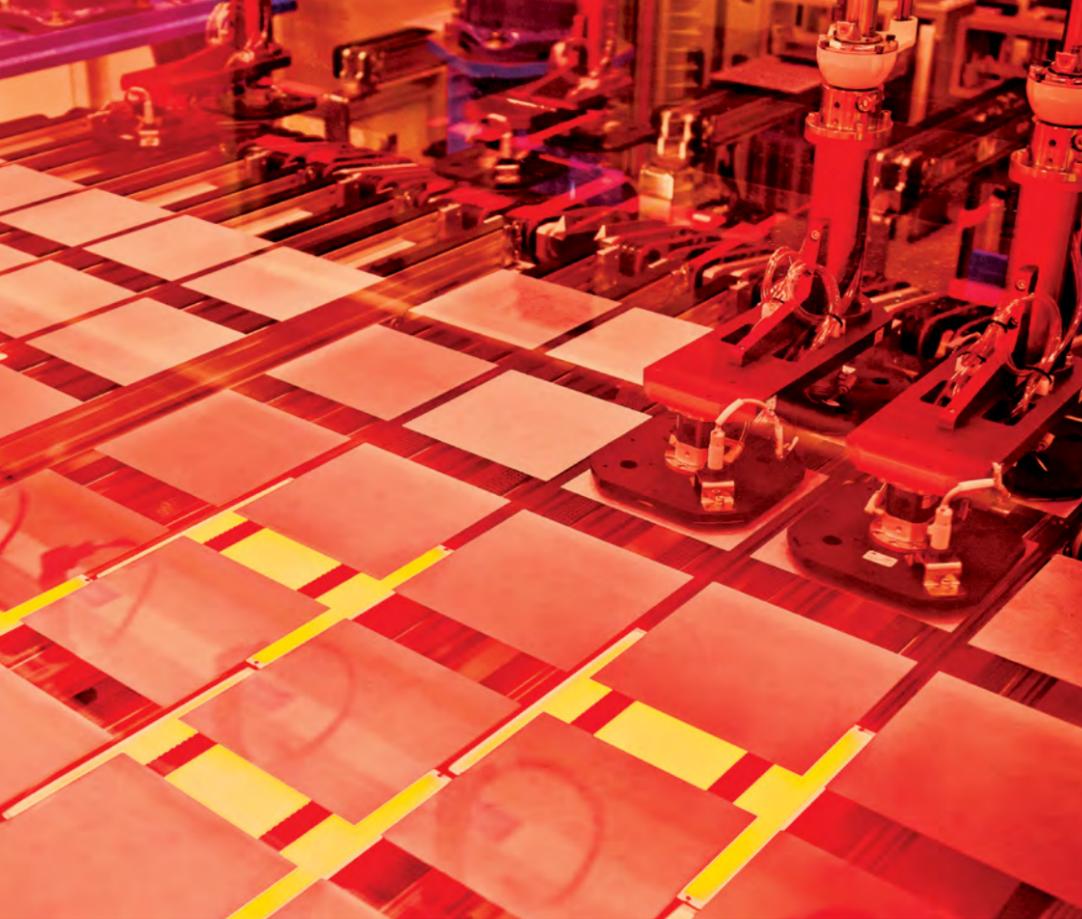
AEROSPACE

USD 22.06
Billion

Over the past five years, Hanwha Aerospace has secured aerospace contracts worth nearly USD 22.06 billion by partnering with global aviation engine companies such as Pratt & Whitney, GE, and Rolls-Royce. We also signed an agreement with United Technologies International Corp-Asia Pte Ltd. (Pratt & Whitney subsidiary) to acquire a 30 percent equity interest in P&W NGPF Manufacturing Company Singapore Pte. Ltd. The plan is to manufacture hybrid metallic fan blade parts and high-pressure turbine disks for engines.

Hanwha Aerospace's
aircraft engine production site





MACHINERY

Experience Your Smart Factory

Hanwha has more than 50 years of experience in global mechatronics and we've never stopped innovating. Our customers use our technology to improve productivity and efficiency.



SECURITY

Innovative Security Solutions

Hanwha Techwin has accumulated over 30 years' worth of core technologies in optics design, image processing, and manufacturing. We've built on these technologies with continuous technology development to grow rapidly and become South Korea's No. 1 video security solutions provider. And by leveraging our expertise and experience, we're on a trajectory to develop the next-generation technologies in deep learning. AI and business intelligence analytics is not only the natural next progression for our company but also, it is a way for us to increase our presence in the global security market.

ELECTRONICS

Defense Electronics Innovation

By leveraging our strategic alliances and building unique technologies in command, control, communication, computer, cyber and intelligence (C5I), Hanwha Systems is bringing innovative solutions to global markets.





TOMORROW



TODAY

WE INVEST IN THE POWER OF TOMORROW SO YOU CAN MEET
THE ENERGY DEMANDS OF TODAY.

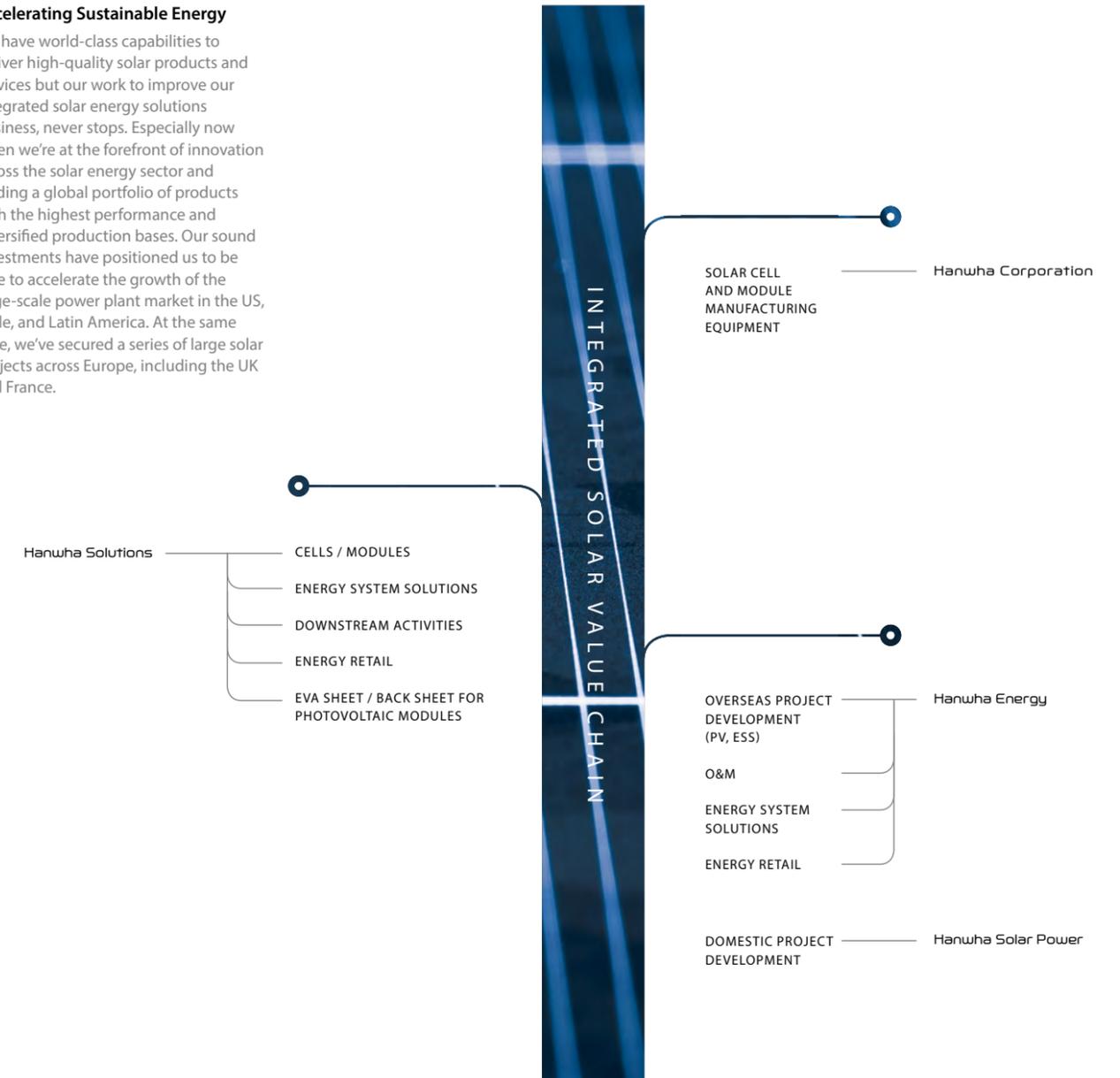
SOLAR ENERGY

With superior quality solar products and services that have incorporated world-class technology, Hanwha has rapidly become one of the most trusted names in the global solar industry. We are at the forefront of innovation in the solar energy sector, with sustainable products and solutions custom-designed to address the global energy challenges of today and tomorrow.



Accelerating Sustainable Energy

We have world-class capabilities to deliver high-quality solar products and services but our work to improve our integrated solar energy solutions business, never stops. Especially now when we're at the forefront of innovation across the solar energy sector and leading a global portfolio of products with the highest performance and diversified production bases. Our sound investments have positioned us to be able to accelerate the growth of the large-scale power plant market in the US, Chile, and Latin America. At the same time, we've secured a series of large solar projects across Europe, including the UK and France.





SOLAR CELLS
& MODULES

Technology Leader

Hanwha Solutions' proprietary Q.ANTUM solar cells significantly reduce energy consumption by utilizing Passivated Emitter Rear Contact (PERC) architecture. In 2015, the company achieved a record-breaking 19.5 percent efficiency rating with its multicrystalline solar module, the first module of its kind. For the 5 consecutive years, in 2019, DNV GL, the world's largest classification society, rated one of our key products like the Q.ANTUM, a "Top Performer." By the end of 2018, Hanwha Solutions had succeeded in mass-producing 25GW of Q.ANTUM solar cells. Our high-end technology is recognized around the world and has won the Top Brand PV Seal 2020 from EuPD Research 8 consecutive years in Europe and 6 consecutive years in Australia.

SOLAR RESEARCH
& SALES

60+ Countries

Hanwha has state-of-the-art solar energy R&D centers in Germany, South Korea, China, and Malaysia. Its marketing and sales operations are in more than 60 countries throughout Europe, Asia, and North America.

Power plant using Hanwha solar modules in
North Carolina, USA



SOLAR CELL
PRODUCTION

Global Production Leader

Hanwha Solutions is a world-class leader in solar module manufacturing with an annual module production capacity of 12.4GW.

(as of December 2021)



PV MODULES

Market Share Leader

In 2015, Hanwha Solutions signed, what was at the time, the largest single contract in the solar industry. The agreement was with the US company, NextEra Energy Resources, to provide more than 1.5GW of solar modules. Hanwha Solutions is the market share leader among all global manufacturers in Japan and the US (residential and commercial markets). We have achieved the biggest market share in Germany, and the UK. We're leading the charge in green growth and sustainable development to reduce poverty, create jobs and advance the synergy between the environment and economy for generations to come.



INNOVATE



SECURE

WE INNOVATE FINANCIAL PRODUCTS SO YOU CAN SECURE
A PEACE OF MIND.

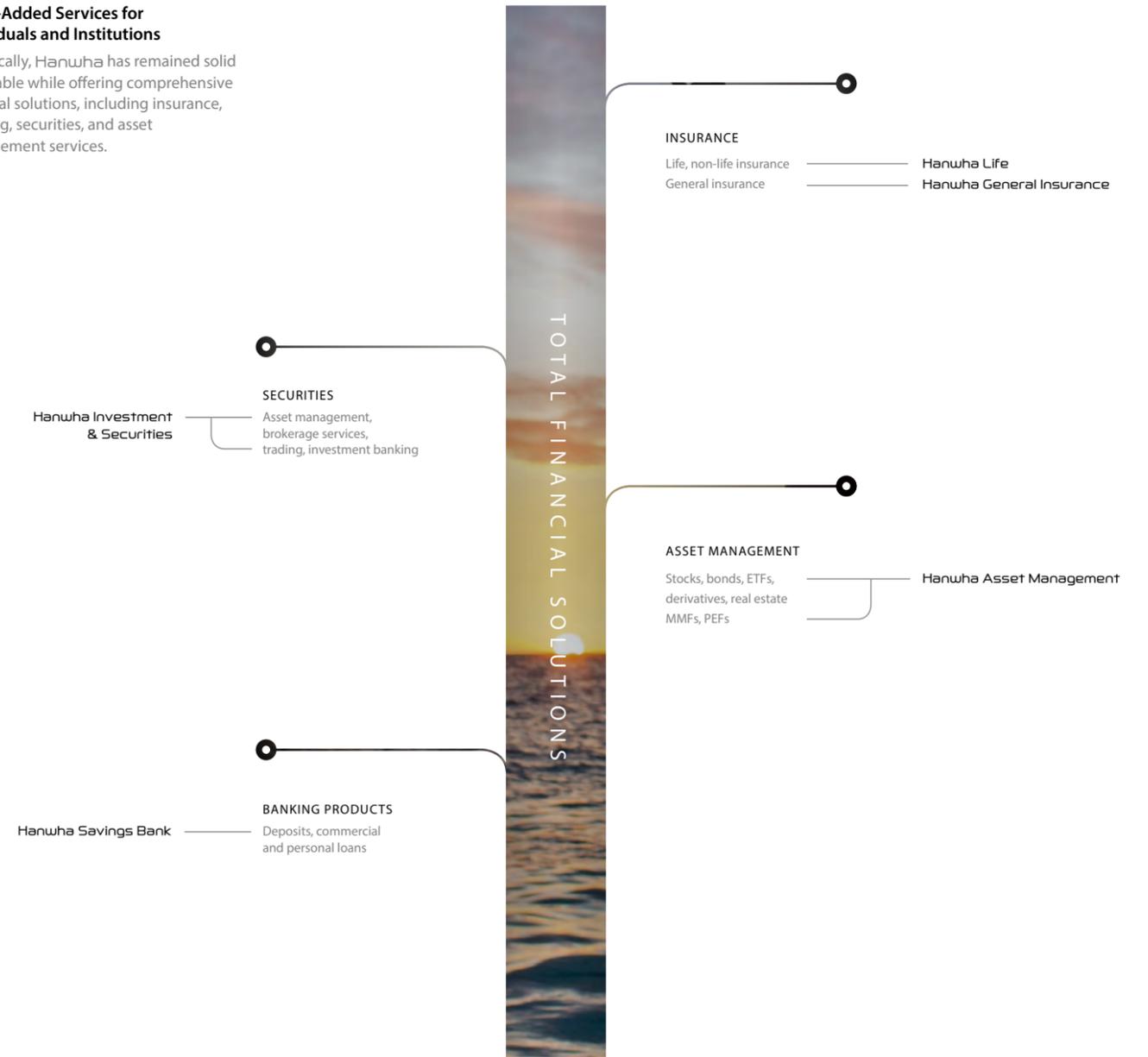
FINANCE

Hanwha offers a complete financial service platform with insurance, securities, asset management and banking products. We create value for individuals and institutional customers by continuously adapting to today's rapidly changing financial landscapes and providing financial solutions that give customers the freedom to pursue their dreams.



Value-Added Services for Individuals and Institutions

Historically, Hanwha has remained solid and stable while offering comprehensive financial solutions, including insurance, banking, securities, and asset management services.



LIFE INSURANCE

A New Milestone

Seventy years after being established as South Korea's first life insurance company, Hanwha Life has reached a new milestone with USD 91.9 billion (KRW 100 trillion) in total assets.

In 2020, we grew and achieved new heights to lead the industry with USD 116.73 billion in total assets. We've maintained a sound financial structure since 2010, when we were first recognized as a major domestic insurer in the securities market.

Hanwha Life is achieving industry-leading value in asset management, on-site sales competitiveness, and product development capabilities.





FINTECH

Securing Future Growth

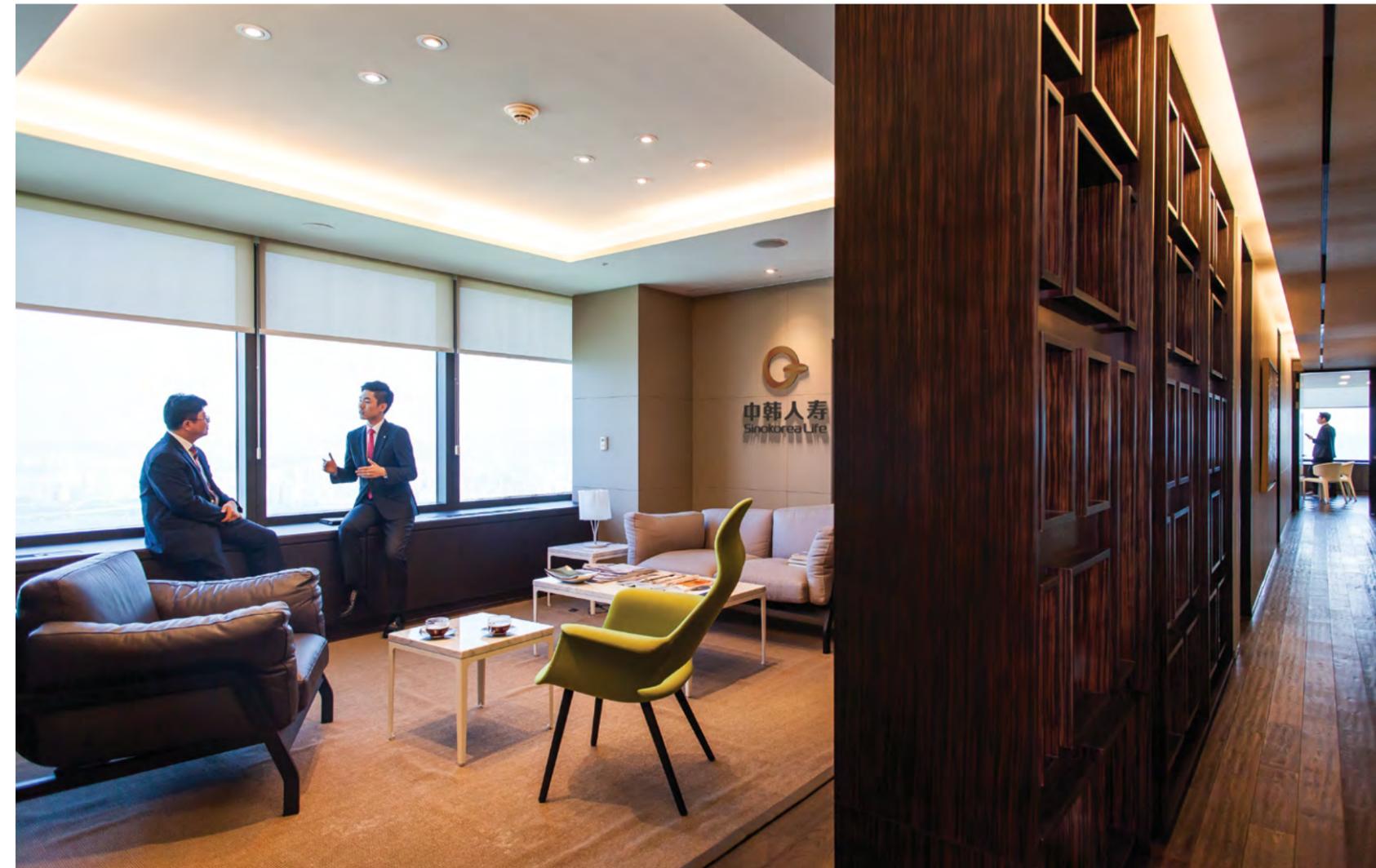
Hanwha is leveraging Big Data strategically and applying the latest financial technologies to create sustainable growth in new markets, including online banking, insurance, and lending with mid-range interest rates.



SALES NETWORK

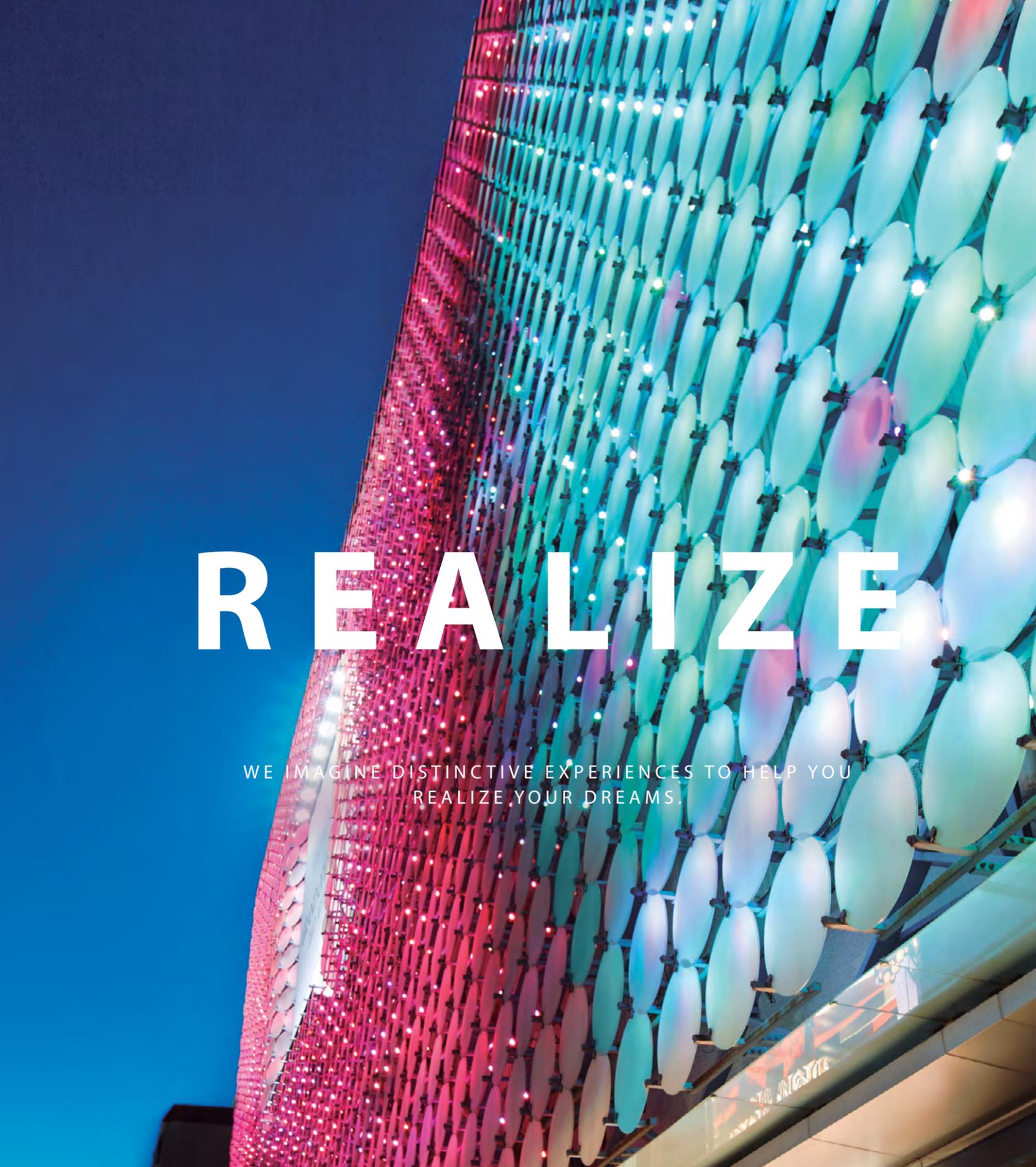
Global Expansion

Hanwha's financial business is accelerating its entry into the pan-Asian market, across the US, Vietnam, China, Indonesia and Singapore. We're leveraging our diversified global financial business portfolio including life insurance, securities, and asset management. We will also continue to strengthen our future growth engines as we advance into the digital financial market while providing financial solutions that match the lifestyle of our local customers.





IMAGINE



REALIZE

WE IMAGINE DISTINCTIVE EXPERIENCES TO HELP YOU
REALIZE YOUR DREAMS.

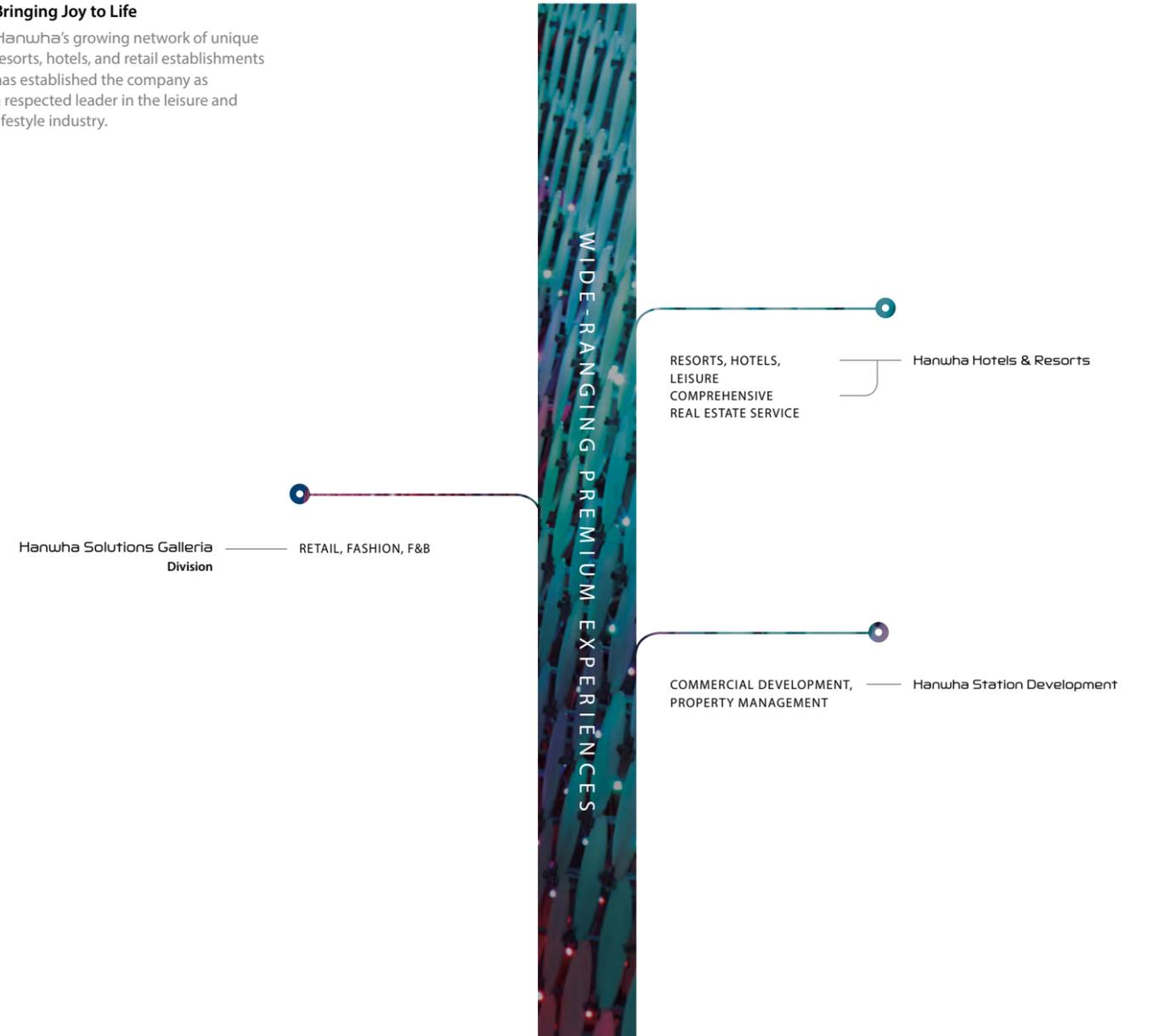
SERVICES & LEISURE

From first-class shopping experiences to luxury hotels and resort stays, Hanwha is dedicated to helping our customers enjoy richer and more fulfilling lives. We continue to expand our services and leisure businesses to bring dream-like experiences to life for people around the world.



Bringing Joy to Life

Hanwha's growing network of unique resorts, hotels, and retail establishments has established the company as a respected leader in the leisure and lifestyle industry.



RETAIL

Premium Contents Producer

The Galleria is Korea's first and foremost premium department store chain. These stores represent Hanwha's commitment to providing differentiated customer experiences by incorporating timely lifestyle consumer trends into its offerings. As a premium provider in retail, we develop luxury brands, food and beverages, VIP services, and new platforms for both offline and online stores.





AQUARIUMS

Leader in Maritime Culture

Hanwha's affinity for marine life shows in our chain of award-winning aquariums, including the eco-friendly Aqua Planet located in the South Korean cities of Suwon (Gwanggyo), Jeju, Yeosu, Ilsan, and Seoul. Aqua Planet Jeju features a diverse and world-class marine aquarium. Aqua Planet Ilsan features an aquarium and a zoo combined. Aqua Planet Yeosu showcases Korea's only 360-degree dome aquarium. Our expertise in marine-life and aquarium architecture is renowned and sought out internationally.



HOTELS

One of A Kind

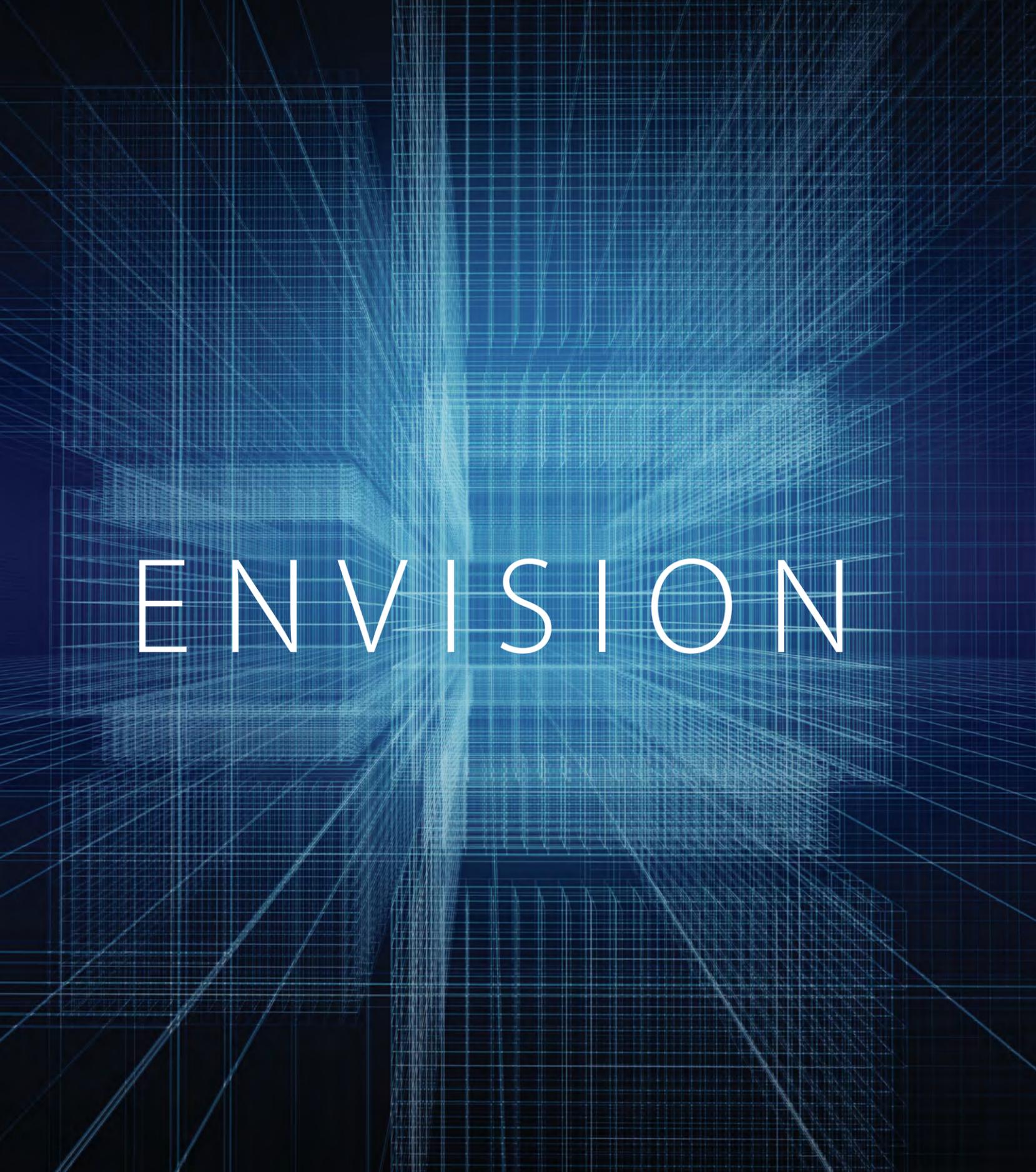
THE PLAZA is South Korea's most luxurious boutique hotel and considered one of the preeminent hotels in Asia. This 5-star hotel is centrally located in the heart of Seoul, amidst a myriad of tourist attractions and a bustling nightlife. THE PLAZA boasts 408 rooms and over 20,000 square feet of event space. It's impressive in size but it is in its refined design, impeccable service, and premium accommodations that we take pride. THE PLAZA is the first hotel in Korea to join the Autograph Collection, Marriott International's premium portfolio of distinctive hotels. We are introducing exclusive services that combine the advantages of a local hotel brand with the benefits of a premier-chain hotel brand.

RESORTS

Luxury At Its Best

Launched in 2018, Hanwha Hotels & Resorts Geoje Belvedere is an upscale beachfront resort complex that offers its guests a holistic experience—where wellness and wellbeing are taken to a whole new level. Nestled between a lush coastal mountaintop and an idyllic sea, the Belvedere is the ultimate destination where nature meets luxury. There are 470 rooms, each with breathtaking views overlooking the ocean. Guests can luxuriate in amenities from fine dining and nature immersion programs to aquatic activities including yachting. The Belvedere's single purpose is to help guests connect to nature so you can unwind, rejuvenate, and enjoy life as it was meant to be.





ENVISION

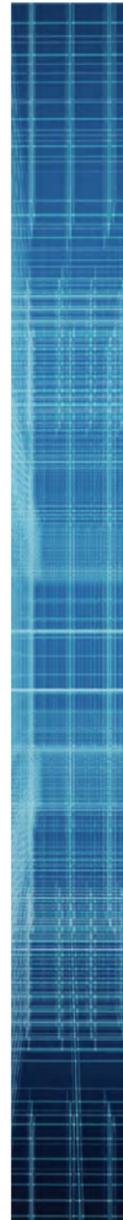


ACHIEVE

WE ENVISION POSSIBILITIES SO YOU CAN ACHIEVE YOUR GOALS.

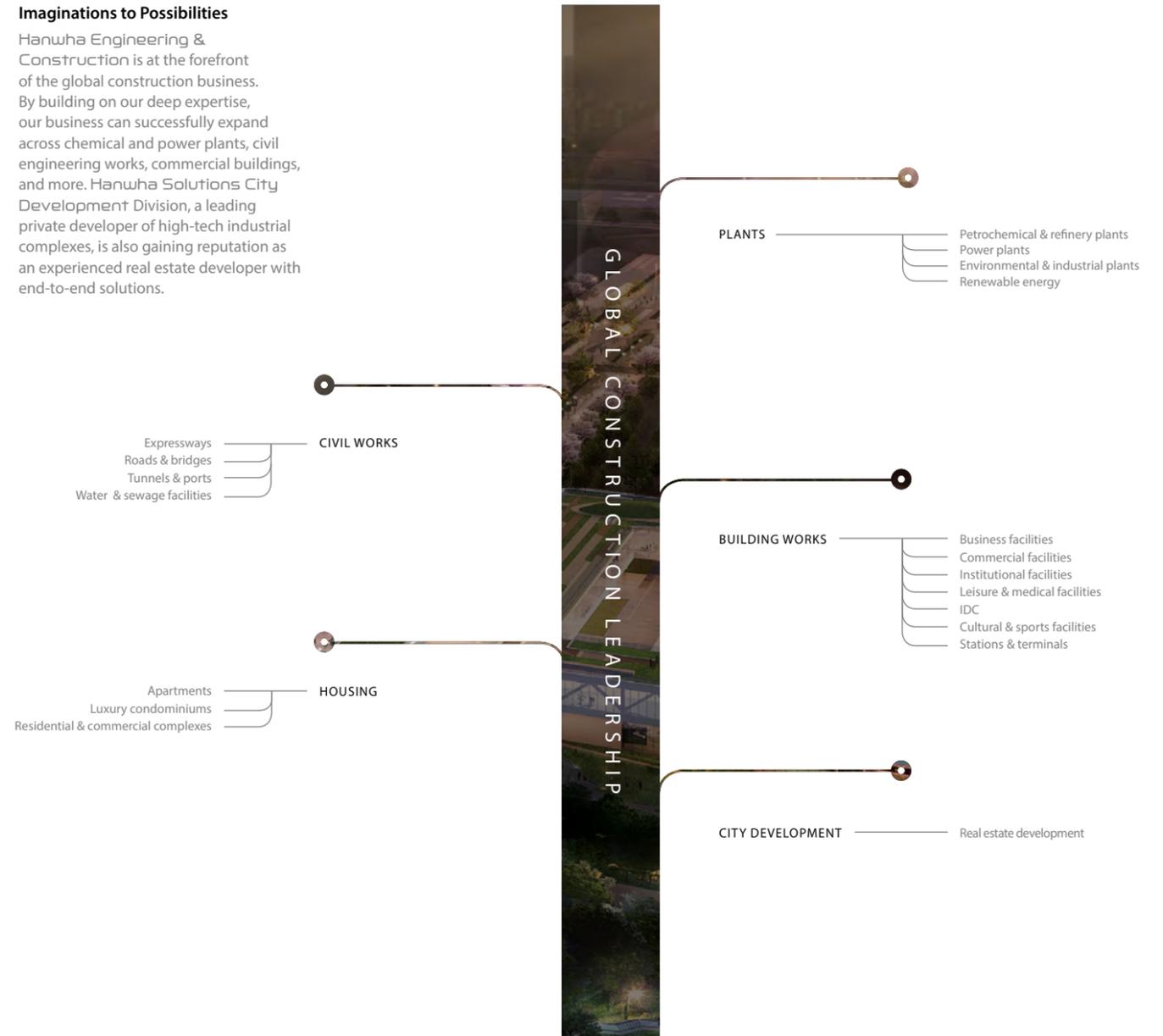
CONSTRUCTION

Hanwha partners with customers to understand their needs and goals. Our deep level of engagement enables us to truly envision before we build and exceed customer expectations after we do. From spectacular performance venues to cutting-edge manufacturing facilities to affordable housing that brings families and communities together, Hanwha is helping to enrich the lives of millions worldwide.



Imaginations to Possibilities

Hanwha Engineering & Construction is at the forefront of the global construction business. By building on our deep expertise, our business can successfully expand across chemical and power plants, civil engineering works, commercial buildings, and more. Hanwha Solutions City Development Division, a leading private developer of high-tech industrial complexes, is also gaining reputation as an experienced real estate developer with end-to-end solutions.





IRAQ PROJECTS

Building A City

Hanwha's Bismayah New City Project is the unprecedented effort to build an entire city covering nearly 60 city blocks and including over 830 apartment complexes totaling more than 100 thousand units. The Bismayah New City Project is the largest construction project in the history of the Middle East by a South Korean company. And recently, we secured another contract worth USD 2.1 billion to build the social infrastructure for Bismayah city. This pushes the total value of the project to more than USD 10 billion.



PETROCHEMICAL PLANT DEVELOPMENT

Turnkey Solutions

Hanwha Engineering & Construction continues to solidify its market presence in the Middle East and North Africa with industrial, power and petrochemical plant projects, including the construction of the Saudi-owned Ma'aden petrochemical plant. The Ma'aden plant will have an annual production capacity of 1.5 million gallons of fertilizer.



THE PHILIPPINES ARENA

World's Largest Dome Arena

Hanwha Engineering & Construction is constructing buildings that are expressions of creativity and innovation. One of them in the Philippines has even become a landmark. The Philippines Arena, built by Hanwha is an outstanding example of creative architecture that uses a design motif inspired by ancient arenas. It is the world's largest domed performance hall.



SUWON GWANGGYO CONVENTION CENTER

Multiplex Development Project

Hanwha Engineering & Construction is becoming a strong player in large-scale urban multifunctional complex developments, such as the Suwon Gwanggyo Convention Center and the development project of the northern area of Seoul Station. Successful complex development projects require the ability to seamlessly link together single-use facilities and develop them to create synergy rather than standalone apartment buildings or offices. We have a proven track record to create a differentiated multifunctional complex by combining the expertise of our affiliates within the Hanwha Group.



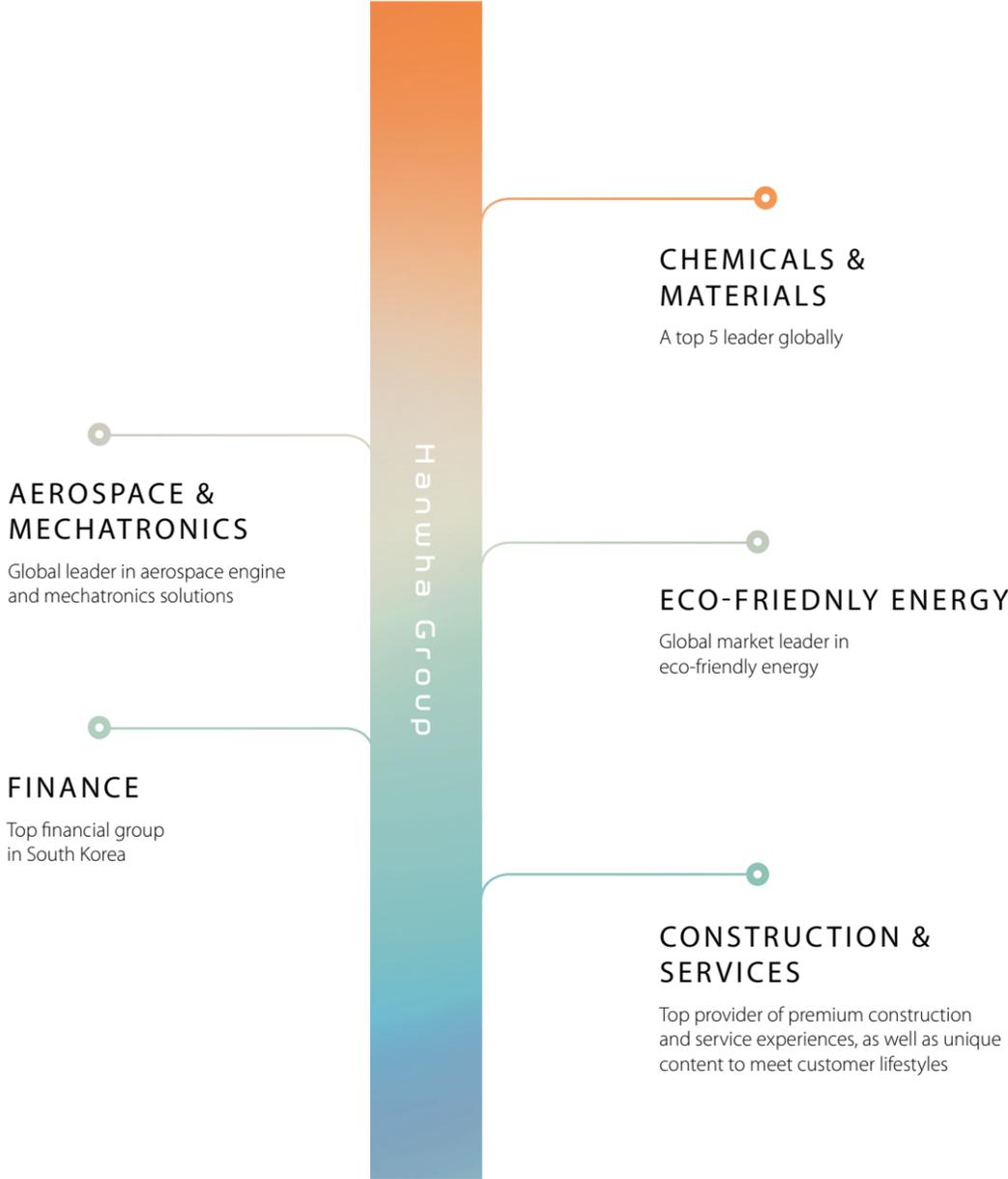
Hanwha OVERVIEW

Hanwha's Spirit & Core Values

At **Hanwha** we operate with the spirit of trust and loyalty above all else. They are reflected in our core values and serve to guide us in how we do business and why we innovate.

Our Core Values

- We believe in challenging the status quo in the pursuit of excellence through change and innovation.
- We are dedicated to our company, customers, and one another to achieve a greater goal.
- We believe in acting with integrity in everything we do, as individuals and employees.



Hanwha Today

After our founding in 1952, **Hanwha** has grown into a Fortune Global 500 company. Our business expertise and synergies in manufacturing & construction, finance, and services & leisure have made us the 7th largest business enterprise in South Korea. And by quickly anticipating and responding to changing market conditions, we've led the industry with world-class capabilities. Our focus, well-executed strategies, and our aggressive investments have helped us to successfully overcome the toughest challenges in key industries in chemical, aerospace & mechatronics, solar energy, and finance. We're now building the foundation for sustainable development and a brighter future for all.



Milestones

Foundation of a Business
1952–1963

RESTORING A NATION'S ECONOMY

After the Korean War, Hanwha played a critical role in reconstructing our devastated nation. In 1952, Korea Explosives Co. (now Hanwha Corporation) produced industrial explosives desperately needed for the reconstruction of our country's infrastructure. The company succeeded in producing nitroglycerin in 1959 and became only the second country in Asia to produce industrial explosives. Since then, much has changed and Hanwha today has expanded its business enterprise globally. One thing, however, remains the same: our mission that a business should contribute to its society; and we do.

Business Expansions
1964–1980

MODERNIZATION OF A NATION

As the nation's economy grew, so did Hanwha. Our success came from aggressive and strategic investments in key industries that could accelerate the modernization of our nation. In the mid-1960s, we established the Korea Hwasung Industrial Co. (now Hanwha Solutions) and entered the petrochemicals business. After launching Kyung-In Energy in 1969, we established Hankook Precision in 1971 (now Hanwha Corporation/Machinery). We sharpened our competitiveness in the machinery business by acquiring Shinhan Bearing Industrial. And in 1972, we continued to advance South Korea's industrialization by constructing Kyung-In Energy's refinery and power plant.

The Second Foundation
1981–1995

STRATEGIC DIVERSIFICATION

When SEUNG YOUN KIM became Hanwha's second chairman, the company's *Second Foundation* had effectively begun. And in the aftermath of the global oil shock in the 70's, one of Mr. Kim's key decisions was to diversify into the petrochemical business by acquiring Hanyang Chemicals and Dow Chemicals Korea. He quickly turned the failing businesses into a global powerhouse (now called Hanwha Solutions) in the global chemical market. Under Mr. Kim's leadership, we've also diversified into finance and services & leisure. In 1985, we acquired the Junga Group (now Hanwha Hotels & Resorts) to become Korea's leading leisure company. In 1986, we also acquired Hanyang Store (now Hanwha Galleria) and expanded into the retail industry.

Building Momentum
1996–2006

RESTRUCTURING FOR THE NEW CENTURY

During the 1997 Asian financial crisis that either crippled or nearly paralyzed most companies in South Korea, Hanwha took bold actions, innovating and restructuring. We secured liquidity by selling profitable affiliates, made employee job security our priority, and moved forward with faith in our spirit of trust and loyalty. We sought new opportunities and began acquisitions. One of them was Korea Life Insurance in 2002, a business that we have since grown steadily to make it the second largest life insurance carrier in South Korea with assets of USD 117 billion in 2020. We emerged from the financial crisis without a single labor dispute and were heralded as a role model for other South Korean corporations to follow.

Accelerating Global Business
2007–2014

EMERGING AS A GLOBAL LEADER

At the turn of the 21st century, Hanwha began accelerating its global expansion. Hanwha Solutions acquired US-based AZDEL Inc. and established a production subsidiary in the Czech Republic in 2007 to increase its standing as a global automotive component maker. In 2011, Hanwha Solutions completed the construction of a PVC plant in Ningbo, China. In 2012, Hanwha Engineering & Construction won a USD 10 billion contract to construct an entire city in Iraq. It was the largest overseas contract ever awarded to a Korean company. Solarfun Power Holdings and QCELLS were acquired in 2010 and 2012, respectively, paving the way for Hanwha Solutions to join the ranks of the world's top solar cell producers. Hanwha Life's investment to expand globally began with its Vietnam subsidiary in 2008 that led to another acquisition—an Indonesian life insurance company in 2013.

Discovering New Growth Engines
2015–Present

INNOVATING FOR A BETTER TOMORROW

Hanwha is enhancing its global leadership position across chemicals, materials, and eco-friendly energy industries. Based on our excellent product competitiveness, our solar business maintains the No. 1 market share position in major solar energy markets, such as the US and Germany. And we are currently expanding our investment in hydrogen, while focusing on our R&D activities. In addition, as the only aircraft engine producer in South Korea, we built a plant in Vietnam in 2018 and launched the Hanwha Space Hub to pioneer the private-led space industry in 2021. We are also proactively addressing changes within the future of mobility industry by entering the urban-air-mobility (UAM) market. In addition, we are actively seeking opportunities in growing sectors such as Fintech and urban multifunctional complex development.



1952 Korea Explosives Co. (now Hanwha Corp.) is founded

1965 Korea Hwasung Industrial (now Hanwha Solutions) is founded

1976 Sungdo Securities (now Hanwha Investment & Securities) is acquired

1994 Hanwha R&D Center is built

1986 Hanyang Stores (now Hanwha Solutions) is acquired



2002 Hanwha acquires Korea Life Insurance (now Hanwha Life)

2012 Hanwha acquires Germany-based QCELLS and Hanwha Solutions is launched

2015 Hanwha Impact, Hanwha Techwin and more companies are launched

2020 Hanwha Solutions is formed through the merger of three Hanwha affiliates.

Financial Highlights

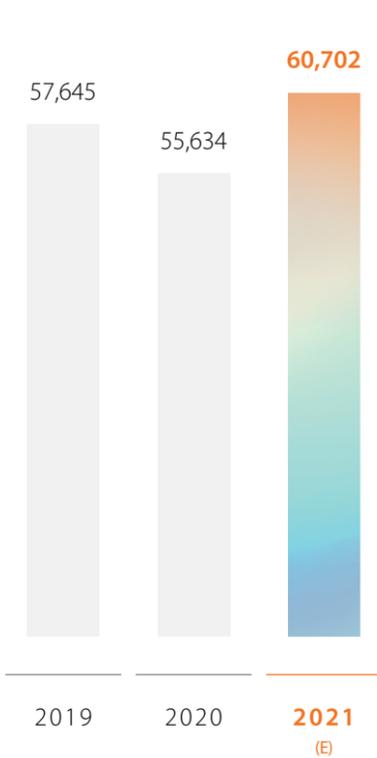
* The financial data in the Financial Highlights show the simple aggregate of sales, total assets, total liabilities, and total stockholder equity among Hanwha Group's major affiliates at home and abroad. (Source: Hanwha Group)
 Figures for sales and total assets of individual affiliate companies published on page 75 and subsequent pages of this brochure are data officially announced by the Financial Supervisory Service.

* This outlook data was generated prior to completing the internal financial statements, accounting reviews, and an external audit report and are therefore subject to change upon settlement of accounts and accounting audit results. The outlook data also include information on forecasts that may be affected by

risks, market conditions, uncertainties, or changes in circumstances. In addition, the actual results may differ from the published or suggested content herein, and may change without prior notice due to shifts in market conditions and change in strategies. This data was generated for reference purposes only. Hanwha Group has no obligation to set or change expectations and forecasts for the future contained herein. The data contained herein must not be used for investment purposes. Hanwha Group does not provide any guarantee for the data and its contents, and has no liability or responsibility for the outcome of investments made based on this data.

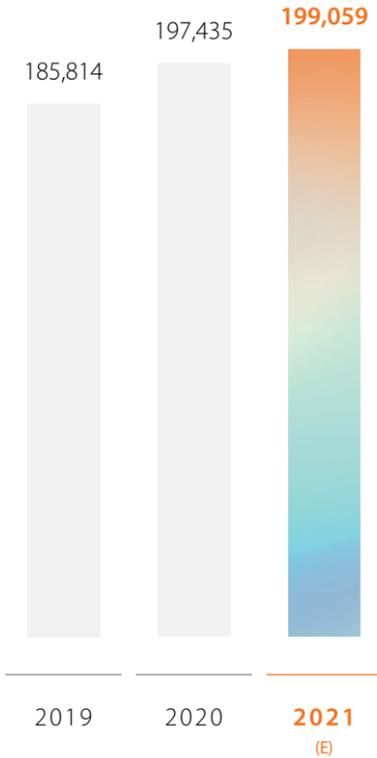
TOTAL SALES

In USD Millions



TOTAL ASSETS

In USD Millions



TOTAL LIABILITIES

In USD Millions



TOTAL STOCKHOLDERS EQUITY

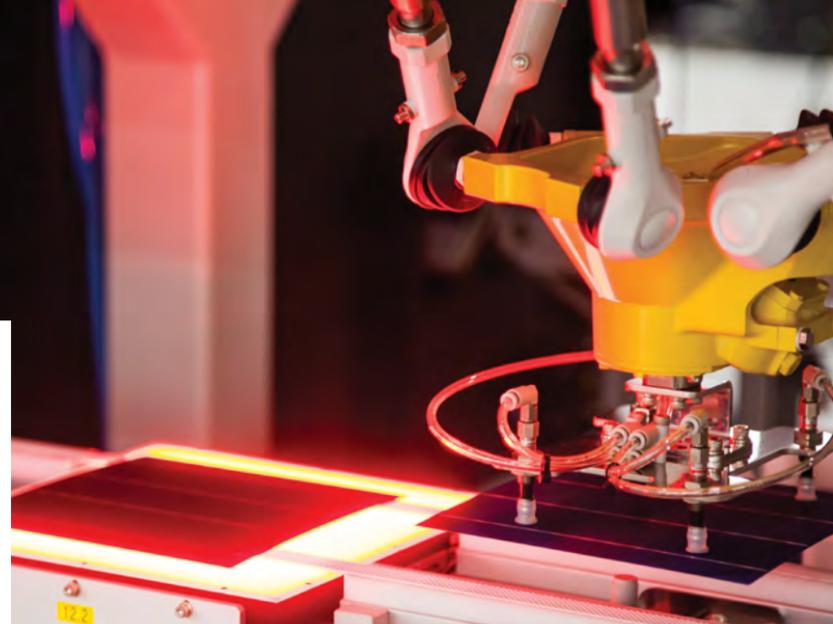
In USD Millions



* Sales are converted into US dollars at the average exchange rate of USD 1= KRW 1,165.65 in 2019, and KRW 1,180.05 in 2020.
 * Assets, liabilities, and shareholder equity amounts are converted into US dollars at the December 31 closing exchange rate of USD 1= KRW 1,157.80 in 2019, and KRW 1,088.00 in 2020.
 * The 2021 expectancy data was converted based on Hanwha Group's internal exchange rate of USD 1=KRW 1,100 for sales and 1,090 for others.



Hanwha BUSINESSES



Manufacturing & Construction

- Hanwha Corporation
- Hanwha Aerospace
- Hanwha Defense
- Hanwha Systems
- Hanwha Techwin
- Hanwha Precision Machinery
- Hanwha Power Systems
- Hanwha Solutions
- Hanwha Impact
- Hanwha **TOTAL** Petrochemical
- YECHUN NCC**
- Hanwha Energy
- Hanwha Engineering & Construction

Hanwha Corporation

www.hanwhacorp.co.kr

EXPERTISE

Global: Industrial explosives products, fireworks, domestic and overseas mining services, petrochemicals, inorganic compounds, eco-friendly energy

Defense: Precision-guided munitions, advanced ammunition, navigation systems, laser, launch vehicle

Machinery: Semiconductor and display manufacturing equipment, logistics (logistics centers, automatic warehouses), secondary battery production equipment, solar cell and module manufacturing equipment, collaborative robots

2020 Total Sales

In USD millions

3,390

2020 Total Assets

In USD millions

6,767

Hanwha Corporation, the parent company of the Hanwha Group, is a global manufacturing and trading company that has directly contributed to the growth of South Korea's economy. There are three divisions under the Hanwha Corporation: Global, Defense, and Machinery.

Hanwha Corporation was founded in 1952 as Korea Explosives company, quickly becoming the leader in explosives industry of South Korea. The company has since evolved into a global multi-industry manufacturing company with diversified products in chemicals, defense systems, and machinery.

We excel at taking technologies to the next level, making them better and making them work together to solve problems. And by leveraging our extensive operating synergy, business networks and more than six decades of experience across explosives, our Global Division has been able to segue into chemical technology-based solutions, effectively bridging the gap between energy and the environment.

In 1959, Hanwha became South Korea's first domestic manufacturer of dynamite. After successfully developing safer, high-quality industrial explosives and Initiating Systems, we have been able to branch out to supplying industries with the fundamental means to build cities and their infrastructures.

We entered the mining service market in 2014, and since then, we've quickly established ourselves in Indonesia and Australia with high-quality products and services. Similarly, we're infusing the best of our technologies, not only into the production of explosives but to set the standards in the global market. Our success in Indonesia and Australia has allowed us to expand mining services into new markets around the world. Our Chemical Business department is demonstrating stable profitability in core businesses such as petrochemicals and inorganic compounds. We are also initiating a range of new projects and targeting new sources for growth via our global network. And our close technology alliances with leading companies in the industry are paving the

way to establish a more solid foundation in promising new sectors.

We entered the defense industry in 1974 and our Defense Division quickly became instrumental in the development of South Korea's military defense. We provided the South Korean military with precision-guided munitions, advanced ammunition, navigation system, and lasers. Through large mergers and acquisitions, we diversified our product portfolios to include self-propelled guns and engines for aircraft and fleets, effectively entering the aerospace business. We then heavily invested in defense electronics such as radar and combat systems. By 2018, we became very competitive as a manufacturer of navigation systems and lasers—the core technologies of the future weapon systems. In 2021, we also entered the launch vehicle business as a part of Hanwha's "Space Hub" initiative. These are our new growth engines.

We have been instrumental in the development and growth of the South Korean defense industry in the Fourth

Industrial Revolution era. The South Korean government regards us as not only reliable but also as a "trusted global partner in providing innovative defense solutions." Not to be satisfied with just accolades, we continue to develop our core business competencies and strengthen our internal capabilities.

Our Machinery Division was established in 1953 and today, with its deep experience and cutting-edge technology, it is leading the machinery equipment industry globally. Our Machinery Division produces high value-added machinery equipment with focus on heat treatment, factory automation, and evaporation processing. Both domestically and internationally, we provide market-proven turnkey solutions to battery companies that include the materials, electrodes, assembly, and formation processes.

Our Machinery Division also leads the logistics automation industry with its advanced factory and warehouse automation technology that we've been developing for the last 46 years. Our automation business is stronger than

ever. We successfully completed the world's first system to automate the entire tire production process. And our innovations are allowing us to make great strides improving production logistics in the manufacturing of Smart Factories that combine highly automated assets with Industry 4.0 technologies.

We have parlayed our in-house technology and ability to build quality to successfully produce high quality solar cells and modules from our advanced manufacturing facilities. We're already recognized for solar power equipment manufacturing in markets across the globe. With continuous R&D and innovations, our Machinery Division is on track not only be a global leader in machinery equipment but a total engineering solutions provider.



Hanwha Corporation provides solar machinery to Hanwha Solutions, one of the world's largest photovoltaic manufacturers, recognized for its high-quality, high-efficiency solar cells and modules.

Hanwha Aerospace

www.hanwhaaerospace.com

EXPERTISE

Gas turbine engines, engine components, aircraft components, launch vehicle engines

2020 Total Sales

In USD millions

4,509

2020 Total Assets

In USD millions

8,699

Hanwha Aerospace total sales and total assets are based on consolidated financial statements.

Hanwha Aerospace is the only aircraft engine producer in South Korea and trusted in the global market for our original application technologies.

In 1977, Hanwha Aerospace began by building businesses in the aircraft engine and film camera industry. Since then, we've aggressively invested in research to develop our technologies in optics, video, and military aircraft engines. We've then expanded into aircraft components and commercial engine parts business. To evolve as we have, we've had to successfully develop top-tier and original application technologies that gave us the competitive edge needed for our businesses around the globe. And as our technologies advanced, so did our expertise and our ability to not only meet the changing market demands but also anticipate them.

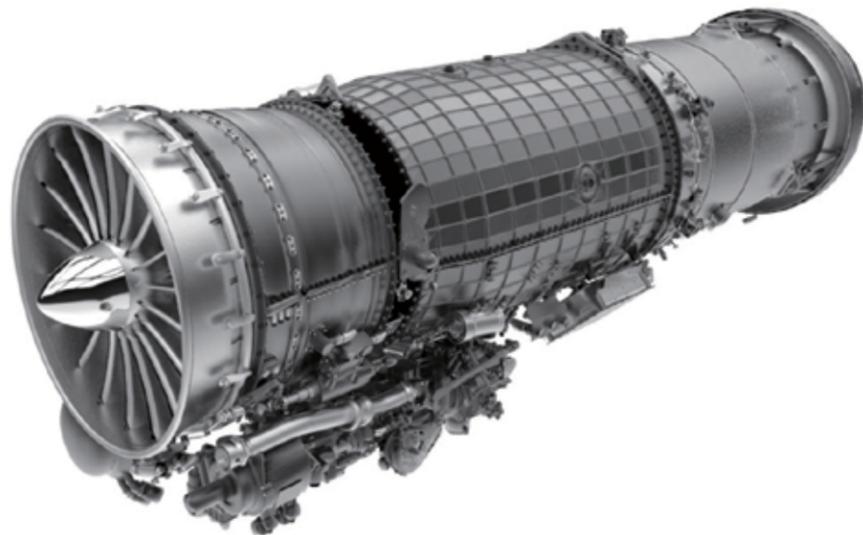
As South Korea's only manufacturer of gas turbine engines for the last 40 years, we have been in a fortunate position to capitalize on all the opportunities to build a powerful business in aerospace. We now provide a range of aircraft

components and gas turbine engine solutions that our nation needs and those that are also desired by markets all over the world. In 2015, we began a partnership with UTAS, a company in Turkey, to export aerospace parts. In the same year, our aerospace maintenance business also signed a memorandum of understanding with GE. In 2016, we became a trusted partner in the global aircraft industry when we entered a contract with the United States' Pratt & Whitney to operate a joint venture with Singaporean manufacturing company. Our partnership with Pratt & Whitney is a Risk and Revenue Sharing Partnership (RSP) to co-build the next-generation aircraft engine. This partnership represents our joining the ranks of other leading aircraft engine manufacturers of the world. In 2017, we established a production base in Vietnam to improve our cost competitiveness and increase production capacity. In 2019, we acquired EDAC Technologies, the US aircraft engine component manufacturer, and launched Hanwha Aerospace USA to expand our product portfolio and leverage high-end processing technology.

In 2021, we entered the satellite business through the acquisition of Satrec Initiative, a domestic satellite specialist. As a key company behind "Space Hub," Hanwha's foray into the space industry, we will actively promote R&D investment and talent recruitment across multiple aerospace businesses.

We're in an industry that sees changes great and fast but despite them, we've continuously achieved great successes and we remain committed to becoming the top global partner in aviation engine parts. Our strategy is simple: We anticipate the ever-changing markets and address them through continuous development of technology with a focus on quality. Embracing the promise of the New Space Age, we will continue our efforts to establish the space industry value chain, including launch vehicle engines, while providing total solutions for the industry.

World-class quality and continuous R&D have propelled Hanwha Aerospace's success as a global aviation products supplier for fighter jets and UAVs.



Hanwha Defense

www.hanwha-defense.co.kr

EXPERTISE

Artillery systems, armored vehicles, air defense systems, unmanned ground systems

2020 Total Sales

In USD millions

1,218

2020 Total Assets

In USD millions

1,894

Hanwha Defense is expanding its global business and establishing itself as a total defense solution provider by building on the strengths of its portfolio that include artillery systems, armored vehicles, air defense systems, and unmanned ground systems.

Over the years, we've been constantly evolving, learning from end-users and working to develop superior technology to offer global-leading solutions. We already have market leadership in the SPH category. Our wide range of products have expanded to include artillery systems, armored vehicles, air defense systems, and unmanned ground systems. At the same time, we're gaining recognition. Hanwha weapon systems are world-renowned for performance and purposefully designed to serve as defense solutions for the future.

Hanwha Defense has developed its expertise in artillery systems, in part, from its experience from having produced more than a thousand K55 Self-Propelled Howitzers (SPH). And by continuously investing in R&D, we have developed next-generation SPHs that push the boundaries of performance like the world-class K9 Thunder SPH artillery system and the K55A1 and K9A1 with advanced capabilities. Innovation is also the forefront of what we do. For example, the K9, is the world's first fully operational automated ammunition support system. Its successor, the K10 Ammunition Resupply Vehicle, further improves upon K9's advanced capabilities. Hanwha Defense also manufactures more than

40 land-based launcher systems and naval launchers, including the Chungung (surface-to-air missile launcher), and the Korean Vertical Launching System (KVLS).

Hanwha Defense is proud to offer a diverse portfolio of armored vehicles that are highly effective in Multi-Domain Operations (MDO). Key products include the 120mm self-propelled automatic mortar system which boasts superior combat distance and firepower than conventional mortars; seven types of specialized armored vehicle models that leverage the technologies from the K200 Armored Personnel Carrier such as the NBCRV (Nuclear, Biological, Chemical Reconnaissance Vehicle); and the K21, a world-class infantry fighting vehicle. We are also developing a South Korean-style amphibious bridging vehicle, and the KAAV-II (Korean Amphibious Assault Vehicle) – the primary armored personnel carrier for the South Korean Marine Corps.

Hanwha Defense is leveraging the latest technologies to develop best-in-class systems that are optimized to respond to and defend against various aerial attacks. The Hybrid BIHO self-propelled air defense system is renowned for its high efficacy and has even been credited for elevating the air defense level for the nation of South Korea. The system includes powerful anti-aircraft guns and guided missiles that are capable of engaging low-flying targets and delivering optimal lethality. Our Anti-Aircraft Gun Wheeled Vehicle System (AAGW) includes low-cost, high-efficiency 30mm twin air defense guns and is

expected to be used in the South Korean military starting in 2021. What's more, the CHUNMA is South Korea's first surface-to-air guided system to counter low-altitude aerial threats against any major facility.

Hanwha Defense is leading the development of unmanned ground systems domestically. These solutions include the technologically advanced Tactical Unmanned Ground Vehicle, the Remote-Controlled Weapon Station (RCWS) for various platforms, and the lithium-ion battery system for submarines that provide double the life cycle of lead-acid battery systems with higher operation speed and better efficiency.

Hanwha Defense has strengthened its reputation in the global market due in no small part to its advanced technology and consistent product quality. Since the export of the K200 armored vehicles to Malaysia in 1993, marking the first large-scale overseas sales by a South Korean defense company, Hanwha Defense has been expanding its global footprint by exporting the K9 SPH and K10 ARV. In addition, global marketing activities are under way to promote the Hybrid BIHO air defense system, the Tigon wheeled armored vehicle, and the Redback – a next-generation infantry fighting vehicle.

With continuous innovations and sustainable R&D investments, Hanwha Defense is providing a comprehensive set of defense solutions whose differentiating capabilities positions us to become the market leader.



Leveraging our industry experience and expertise, Hanwha Defense is becoming a leading defense company with cutting-edge convergence solutions.

Hanwha Systems

www.hanwhasystems.com

EXPERTISE

Defense: Aerospace systems, aerospace sensors, military satellite communication systems, satellite surveillance and reconnaissance systems, urban-air-mobility (UAM), low orbit satellite communication antennae

ICT: Integrated IT business services

2020 Total Sales

In USD millions

1,392

2020 Total Assets

In USD millions

2,477

We're reshaping the way we think and the way we work. The resulting synergy we create as we fuse advances in digital defense technology and future ICT is helping us to drive our adaptation to the Fourth Industrial Revolution toward a smarter tomorrow.

Hanwha Systems is a global total solutions company providing differentiated smart technologies in defense electronics and information infrastructure. Our IT & system integration capabilities combined with our product portfolio differentiates and positions us to lead in defense electronics, public infrastructure and private security.

Since its founding in 1978, the Hanwha Systems defense division has proven the efficacy of its weapons and has been credited for significantly advancing the defense capabilities of South Korea's military. The knowledge we've gained from working with the South Korean military and the 40+ years of developing advanced systems all over the world, are being leveraged to develop systems for land, air, naval, and cyber. Our portfolio of products and systems include CSI-SR (Command, Control, Communications, Computers, Cyber, and Intelligence, Surveillance & Reconnaissance).

Our aerospace systems represent our work to enable the modern military to forge superiority over the surface of the Earth through reconnaissance, gathering intelligence, and military communications. We're integrating small-satellites with synthetic aperture radar (SAR) for military reconnaissance satellites and applying our state-of-the-art aerospace technology to develop an Active Electronically Scanned Array (AESA) radar for the next-generation South Korean fighter KF-X. We are also

developing core avionic electronics for fixed wing, rotary wing, and unattended systems. In communications, we're developing core components for satellite and aerospace mission sensors, electronics, survival and communication devices.

Our surveillance and reconnaissance systems that we developed for South Korea include the Thermal Observation Device (TOD), Electro-Optic Tracking system (EOTS), Infrared Detection Tracking Equipment and Portable Multifunctional Observation scopes. Hanwha Systems is applying cutting-edge technology to dramatically advance its radars like the L- SAM MFR (Long-range surface to air missile multi-function radar) and M- SAM (Medium range surface to air missile multi-function radar). We're also developing new multi-function radars to add to our next-generation combat systems like the FFX Batch-III.

Hanwha Systems' CSI businesses rely completely on original technologies developed in-house and our advanced R&D to innovate products that can operate in future combat environments. We're building the future of Tactical Information Communication Networks (TICN) using next-generation technologies integrated into satellite communications systems. As a dominant leader in our field, Hanwha Systems anticipates greater development of its CSI and tactical information communication systems to provide hyper-connected, intelligent solutions. We are also the sole supplier of naval combat management systems to South Korea's Navy. Our proprietary technology is at the heart of their enhanced combat systems and integrated solutions for sensors and armament.

Hanwha Systems' ICT division delivers customized systems to a variety of industries—including manufacturing, defense, construction, financial services, services sector, and education—which in turn, makes our customers more competitive in their own respective industries.

Our ICT division operates a Cloud-based Big Data center that provides data analysis. And combined with our smart factories powered by IoT and Big Data technologies, we're improving productivity, predictability, quality and processes for companies and their clients. We're even helping our nation as a whole – keeping cities safe with our integrated security and control platforms designed to provide superior public infrastructure.

In an effort to secure future growth engines, we're heavily investing in urban air mobility (UAM) and satellite communication businesses. In the urban air mobility business, we are developing Butterfly, a personal air vehicle, and infrastructure solutions that seamlessly integrate new mobility systems into the existing urban transport network and air mobility service. And our aggressive development of satellite communication systems and electronically steerable antennas are allowing us to expand our satellite business.

We're on a path to an unprecedented transformation, seeking both possibilities and opportunities with digital innovations and in disruptive technologies that combine AI, IoT and Big Data. We're building internal blockchain platforms and forging technology partnerships with leading companies like Element AI as we embrace the Fourth Industrial Revolution.

Hanwha Techwin

www.hanwhatechwin.com

EXPERTISE

Video surveillance solution

2020 Total Sales

In USD millions

449

2020 Total Assets

In USD millions

479

Hanwha Techwin total sales and total assets are based on consolidated financial statements.

Hanwha Techwin, a renowned global security company, provides optimized security solutions across a range of areas—including residential, urban, and commercial facilities—with its world-class image-processing technology.

Established in 1990, Hanwha Techwin's advanced optical design, manufacturing, and image-processing technology have made it a global leader in video surveillance. We're heavily investing in R&D to innovate and meet the ever-changing market needs. In so doing, we've been gaining recognition as a global top-tier company. By applying our experience and subject matter expertise to our product development, we've been able to create a complete line of security solutions, from cameras and recorders to integrated management software. Our products are designed to meet every application, including urban surveillance, retail, transportation, and banking.

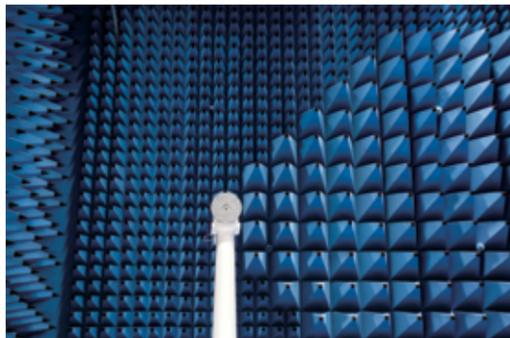
We manufacture over 2.15 million video surveillance devices in South Korea, China, and Vietnam. We maintain the largest share of the South Korean video surveillance

market. However, 75 percent of our total sales comes from our overseas markets.

Our products are sold through more than 16,000 global sales networks across Europe, the Americas, the Middle East, and Asia. The strength and breadth of our networks affords us the ability to market and sell our products directly to our customers.

Incorporating the next generation of technologies, such as deep learning, AI, and business intelligence, is at the core of what Hanwha Techwin is doing to ensure our portfolio of security solutions will catapult us to the forefront of the Fourth Industrial Revolution. We are becoming a global security solutions provider with industry-leading cybersecurity technology that offers customers the highest level of confidence and satisfaction.

(left) Hanwha Systems R&D Center develops cutting-edge technologies to build world-class defense systems in aerospace, surveillance and reconnaissance, CSI-SR, naval and land.



(right) The Hanwha Data Center embodies a state-of-the-art integration infrastructure that enables our clients to offer better solutions and value for their customers.



Hanwha Techwin's flagship Wisenet brand represents our technological excellence in video surveillance systems. Hanwha Techwin offers a wide range of products from economically affordable to premium grade solutions that can be customized.

Hanwha Precision Machinery

www.hanwhaprecisionmachinery.com

EXPERTISE

Chip mounters, screen printers, semiconductor equipment, machine tools

2020 Total Sales
In USD millions

301

2020 Total Assets
In USD millions

225

Hanwha Precision Machinery is a Smart Factory total solutions company driving the development of the next-generation products in the manufacturing industry. We are leveraging our subject-matter expertise built over the years and continuously innovating to provide a comprehensive portfolio of products to deliver meaningful customer value.

After developing the first Surface Mount Technology (SMT) chip mounter in 1989, Hanwha Precision Machinery has become a leading worldwide Smart Factory solutions provider, offering semiconductor equipment, insertion and assembly automation equipment, machine tools, and integrated software solutions.

After launching in 2013, our flagship DECAN series has continuously evolved. It is now a high-speed mounter that is arguably the world's only modular conveyor system whose key components can be replaced. The SM Series is our bestselling product line with best-in-class performance. In addition, our newly

developed high-speed mounter HM520 boasts world-class productivity and is recognized by global customers for its modular head and various production modes.

Hanwha Precision Machinery's T-Solution is a comprehensive SMT production line solution designed for Smart Factories. It connects all assets in a production line and utilizes Big Data analysis to provide seamless operations, better quality control, and the ability to operate remotely. T-Solution, recently launched, embodies the principles of Industry 4.0 in terms of interoperability, connectivity, and autonomy. It yields higher production efficiencies, greater installation accuracies, zero defects, and lower maintenance costs.

We've been in the machinery business for over 50 years and, in that time, continuously built up our expertise and improved our technology. Our success can be seen in our machine tools business that commands a technical advantage in the market by producing South Korea's first multitasking automatic

lathes and turret-type lathes. Our machine tools are custom built to meet customer feature requirements and production lines—they've allowed us to capture the largest market share in CNC automatic lathes in South Korea.

Our solutions that include the SMT mounters, and machine tools, are just some of our products that represent our commitment to innovation and our ability to overcome the toughest of challenges. We do this to develop customer-oriented solutions that deliver greater efficiency, versatility, and value. We do this because ultimately, as partners, when our customers succeed, we succeed.

Hanwha Power Systems

www.hanwhapowersystems.com

EXPERTISE

Industrial air and gas compressors, gas turbines, eco-friendly power generation and hydrogen solution

2020 Total Sales
In USD millions

183

2020 Total Assets
In USD millions

268

Hanwha Power Systems is the global energy equipment company in South Korea with independent design, production, and testing capabilities. The diversity, quality and the advanced technology of our products have provided the highest value to our customers around the world.

After its establishment in 1977, Hanwha Power Systems launched its energy equipment business in 1997 on the strengths of its reliable technology and deep experience in gas turbine engines. Since then, we've become a global powerhouse and have delivered more than 6,000 units of air and gas compressors worldwide. Using advanced technology, we developed high-value added product lines. Our product lines include industrial air compressors, fuel gas compressors for power plants, boil-off gas compressors for LNG terminals and plants.

We won the contract to supply the world's first marine Vapor Recovery Unit (VRU) steam recovery turbo compressor. We also won the contract to provide compressors for Floating Storage Regasification Units (FSRU) and LNG carriers. These machines allowed us to demonstrate our outstanding technology in the global market. Our compressors

and expanders use core components developed in-house that make them operate with shorter lead times and better performance. Their high efficiency serves as a competitive advantage to our customers.

Hanwha Power Systems is intent on building long-term partnerships while rapidly expanding its sales, customer service and R&D networks globally. We're strengthening our partnerships so that we can provide better local customer service for our expanded product line. For example, we have been working on securing vendor approvals from Saudi Aramco and other major clients in the Middle East and Asia. At the same time, our Houston R&D Center in the US is accelerating co-development efforts on innovative projects, on a global scale. One of these joint development projects is with the Southwest Research Institute (SwRI) to build a supercritical carbon dioxide (sCO₂) engine.

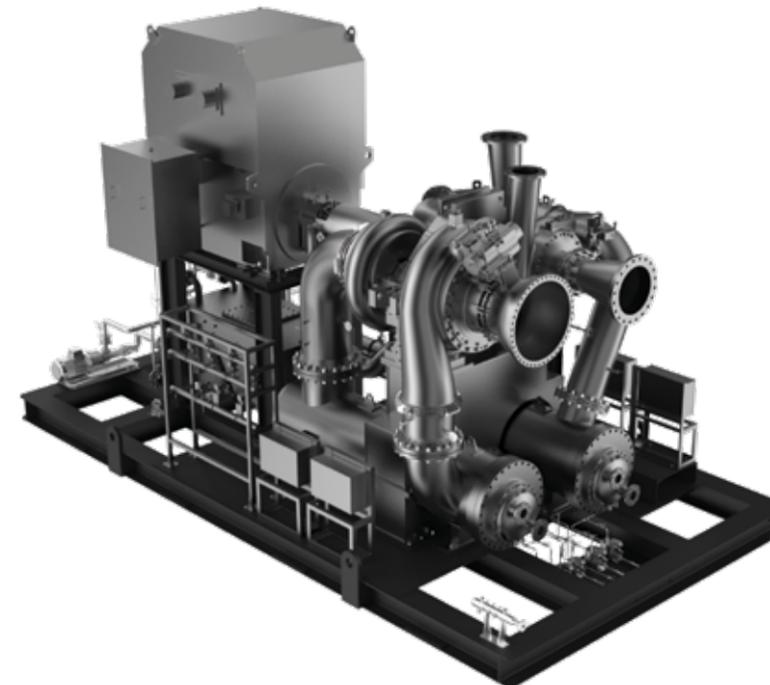
Our next goal is to become a global top-tier power and energy solutions supplier. To this end, we're working to strengthen our product portfolio in the compressor business and expand into turbine-related businesses that can support petroleum gas and power generation customers. One such strategic

cooperation is with Baker Hughes (BH) to sell its packaged products, including gas turbines, steam turbines, and barrel compressors. In 2019, we signed an official service center contract with BH to serve the South Korean market.

We are currently working to fulfill our contract with the US Department of Energy (DOE) to develop sCO₂ engines. The sCO₂ project with the US DOE is expected to help us become a game changer in the distributed power generation market by effectively supplanting the steam turbine market. With the successful completion of this project to manufacture products like the turbo expander generator (TEG) that uses waste heat for power and chemical plants, we expect to secure a leadership position in the market boasting eco-friendly power generation solutions.

In addition, Hanwha Power Systems is focused on hydrogen energy, the next generation of eco-friendly energy. Last year, we won a contract to supply hydrogen charging systems for building a multi-energy hub for the Korea Gas Corporation. With the successful completion of the project, we plan to expand the supply of hydrogen solutions around the world.

Hanwha Precision Machinery's high-speed chip mounter HM520 boasts best-in-class real productivity and is optimized for high-quality production with its modular head and various production modes. We consistently exceed customer expectations with our state-of-the-art high-speed modular system—part of our Smart Factory solutions with unmanned, continuous, and zero-defect production.



In the petrochemical process, our compander is a state-of-the-art turbomachine that features the capabilities of both a compressor and an expander. Hanwha Power System's compander represents the company's leading expertise in turbo compressor and turbo expander technology.

Hanwha Solutions

www.hanwhasolutions.com

EXPERTISE

Chemicals: PE, PVC, CA, TDI
Q CELLS: Solar cells & modules, energy system solutions, downstream activities, energy retail
Advanced Materials: Automotive materials, electronics materials, solar materials

2020 Total Sales
In USD millions

7,792

2020 Total Assets
In USD millions

13,913

Hanwha Solutions provides a range of solutions in various fields through differentiated technology and innovation. We are growing as a global leader in responding to climate change with smart eco-friendly energy solutions and customer-focused materials. We are committed to enriching the future with sustainable solutions for all.

Established in 1965, **Chemical** Division is a total solutions chemical company with streamlined production systems to offer Polyolefin (PO), Polyethylene (PE), Polyvinyl Chloride (PVC), Chlor-Alkali (CA), and Toluene Diisocyanate (TDI). And as South Korea's leading petrochemical company, we dominate the nation's chemical industry with high-quality and eco-friendly products that we offer at competitive prices.

In 2003, we successfully commercialized high-density ethylene vinyl acetate (EVA) for the first time in South Korea. Just four years later, we localized the production of chlorinated polyvinyl chloride (CPVC), enhancing the quality of our PVC. We obtained the New Technology Certification from the Korean Agency for Technology and Standards. And starting in 2017, we have been producing up to 30,000 tons of CPVC annually. We also

expanded our line of specialty products. In 2019, our entry into the high-quality adhesives market was led with the construction of a plant and its commercial production. This new plant could produce up to 50,000 tons of dicyclopentadiene (DCPD) hydrogenated petroleum resins annually. **Hanwha** partnered with three universities to set up centers such as the Institute of Chemical Process at Seoul National University, Yonsei-**Hanwha** Chemical Innovation Technology Center, and the KAIST-**Hanwha** Chemical Future Technology Research Center. It was a significant step forward in our commitment to make quality a top quality while accelerating the pace of innovation to develop high-value-added and eco-friendly products.

We continue to improve production efficiency and cost competitiveness while meeting the growing demand for our products around the world. Our PVC plant, completed in 2011 in Ningbo city of China's Zhejiang province, was built to produce up to 360,000 tons of PVC annually. Today, with continuous improvements in the production process, the plant is producing 350,000 tons of PVC each year. In Bang Phli, Thailand, we built an alkali soluble resin plant with an annual capacity of 17,000 tons. This facility

serves as an important base of operations as we enter other markets in Southeast Asia.

Hanwha Solutions was the first South Korean petrochemical company to tap into new business opportunities in the Middle East. We signed joint venture contracts with International Polymers Company, a private petrochemical company in Saudi Arabia, and Gulf Advanced Cable Insulation Company back in 2009. Then in 2015, we achieved cost reductions and economies of scale as our joint venture with International Polymers began to produce EVA and LDPE. With Gulf Advanced Cable Insulation, we produced wire and cable compounds.

In 2016, through a strategic acquisition of **Hanwha Fine Chemical** company, we were able to achieve maximum synergy in production processing of CA and vinyl chloride monomer (VCM) while enhancing our production efficiencies with TDI, a raw material for polyurethane products.

Our facilities at our **Chemical** Division deploy advanced technologies that produce high-value-added products, such as ECO-DEHCH, an eco-friendly premium plasticizer, while developing

South Korea's first localization of high-purity xylyl diisocyanate (XDI), a raw material for high-end optical lenses. We are also developing a circular economy system, in which decomposed plastic waste can be recycled into naphtha, the raw material for petrochemical products. They represent our commitment to a better environment for a better future. In addition, we established the Hydrogen Technology R&D Center to secure core technologies for responding to climate change and advancing the net zero initiative. Through collaborative efforts with research institutes at home and abroad, we are focused on developing commercial-hydrogen production via anion-exchange-membrane (AEM) electrolysis. We are now poised to become a leading global company in the hydrogen energy market. They represent our commitment to a better environment for a better future.

Q CELLS Division is a total energy solution provider worldwide. Our business scope ranges from the midstream of cells and modules to downstream solar solutions for residential, commercial and industrial buildings, and large solar power plants. We are already a global leader but with our expertise and strategy optimized for worldwide energy

market trends and policies, we're poised for greater growth.

Since our foray into the solar energy business in 2010, the **Hanwha** has transformed its **Q CELLS** Division into the world's leading producer of solar modules. **Q CELLS** Division has a total capacity 12.4GW as of the end of 2021 and its current production network spans across China, Malaysia, South Korea, and the US. Bolstered by strong revenue and driven to stay ahead of the growing worldwide demand, we're continuing to invest in R&D and manufacturing innovations. Our Malaysia plant alone was able to produce more than 1GW of Q. ANTUM cells annually in 2015, the first of its kind in the industry. In Q1 2019, we penetrated the US market and began our acceleration to expand across the country starting with the construction of a 1.7GW capacity solar module plant in the state of Georgia.

Our Q. ANTUM technology is based on PERC cell technology, providing mono-crystalline efficiency for multicrystalline module cells. The multicrystalline Q. ANTUM module, Q. PLUS, won the Module Manufacturing Innovation award at Solar Industry Awards 2015 in Hamburg, Germany. For

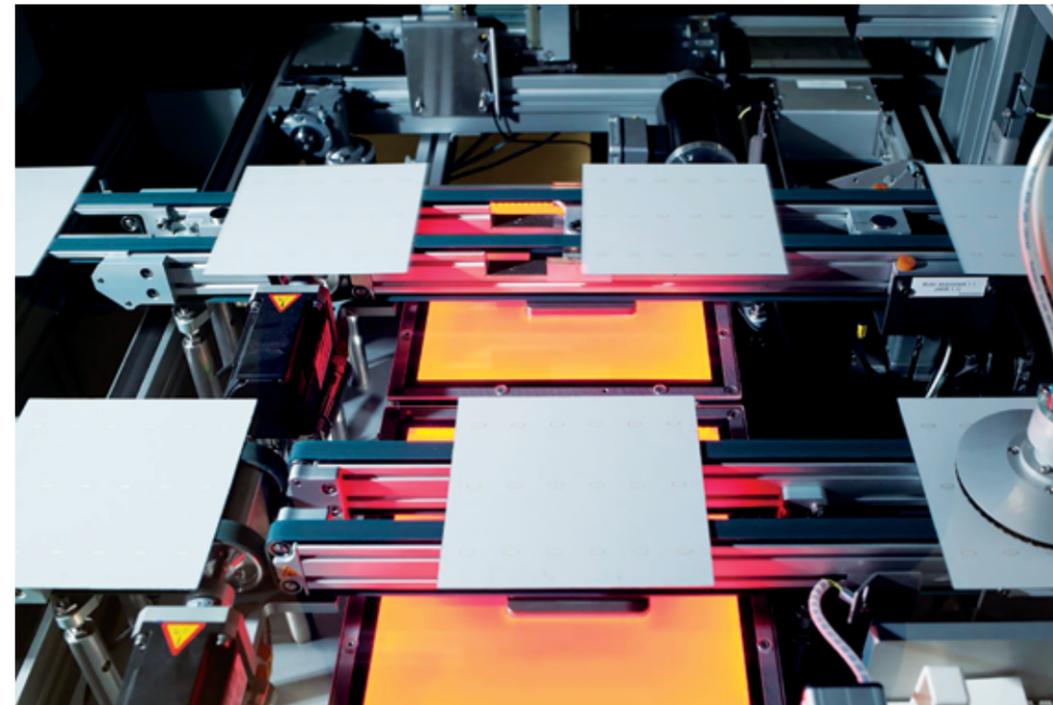
two consecutive years, **Q CELLS** Division has won the Intersolar Award in the Photovoltaics from Intersolar, the most prestigious solar energy conference and exhibition in Europe. In 2017, our Q. PEAK RSF L-G4.2 steel-frame module also won in the Photovoltaics category. The following year, in June 2018, our Q. PEAK DUO-G5 solar module also won in the Photovoltaics category, earning high praise for its 120 half-cell, six-bus bar monocrystalline module that the Intersolar jury panel called "the new standard for residential and commercial rooftops." **Q CELLS** Division was selected as one of the best PV manufacturers by local installers, winning the Top Brand PV Seal 2020 from EuPD Research for the eighth time in a row in Europe and for the sixth time in Australia.

Our technology infrastructure enables differentiated technology innovations. Our R&D headquarter is located in Thalheim, Germany and our R&D network is located across China, Malaysia, and South Korea. Our R&D centers all receive **Hanwha's** continuous support and investments to develop solar technology, including Anti-LID, Anti-LeTID, Tra.Q, and more.

By employing our cutting-edge technology and economies of scale, **Q CELLS** Division has been able to take advantage of the growing demand for solar power around the world. We have been able to offer higher quality products at competitive prices. In 2014, we entered the rooftop solar power equipment market in Japan and Europe and large-scale power plant markets in the US, Thailand, Chile, and Latin America. In the same year, we secured a series of large solar projects across Europe—in the UK, France, and other countries. In 2015, we partnered with US-based NextEra Energy to manufacture 1.5GW of modules, accelerating our entry into one of the world's largest solar markets. We also capture the biggest market shares across the US (residential and commercial markets), Germany, the UK, and Japan.

Q CELLS Division has been recognized for its business capabilities, original technology, strategic investments, and job creation in South Korea. We were awarded the Presidential Award at the 16th Annual Korea New Growth Management Award event in 2019.

Chemical Division's Ningbo PVC plant in Zhejiang, China, was completed in 2011, enabling us to target China's PVC market with outstanding quality and value.



The outstanding quality control capabilities of Anti-LID, Anti-LeTID, and Tra.Q demonstrate how **Q CELLS** Division's global R&D can successfully leverage a variety of solar technologies.

Founded in 1965, our **Advanced Materials** Division has developed an innovative line of environmentally-conscious products and technologies that meet the needs of our customers around the world. We developed local production plants and R&D centers in South Korea, the US, Europe, and China. Our global sales continue to rise.

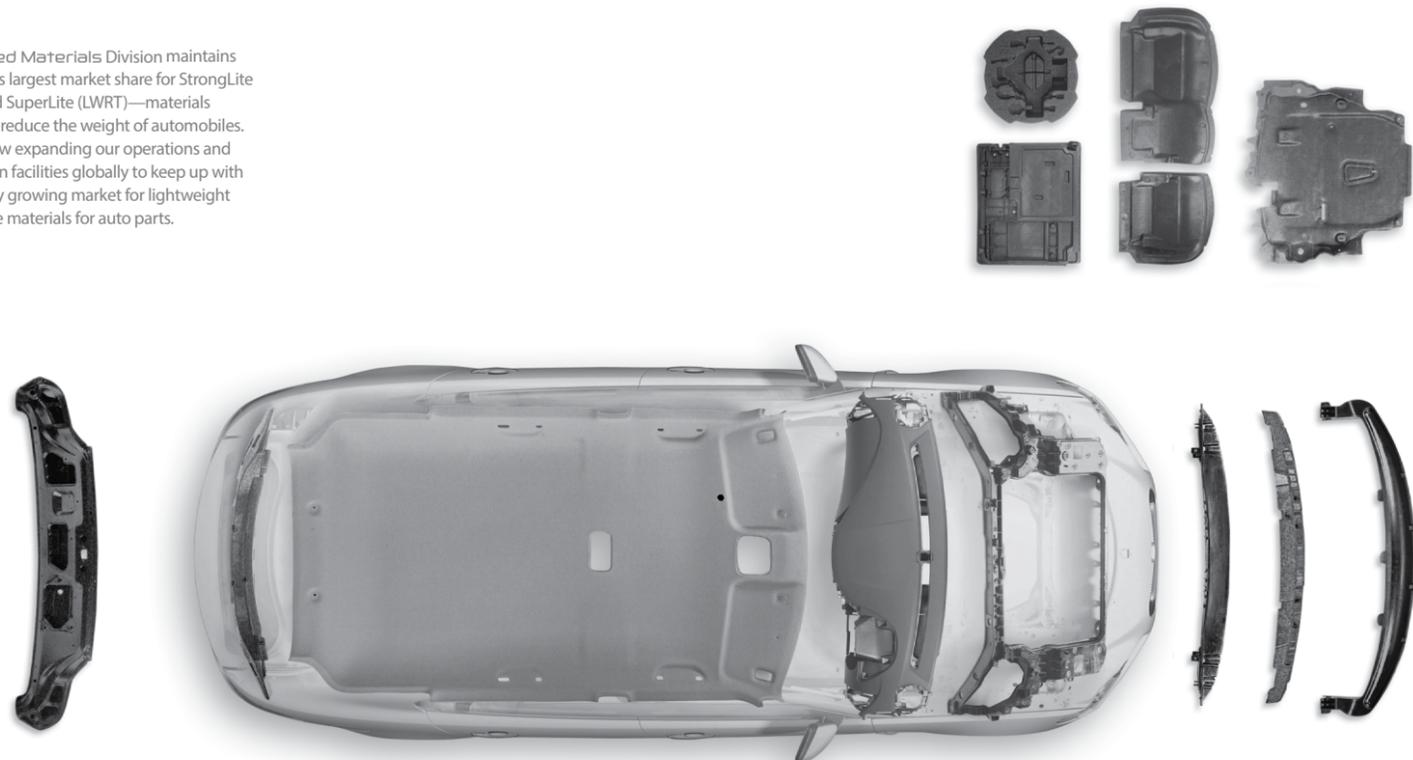
Since entering the automotive materials business in 1986, we have launched a diverse portfolio of products for automobile structures and interiors. We now leverage original technologies to build high-strength, super-lightweight materials and parts. Among the materials we produce are: StrongLite—Glass fiber Mat-reinforced Thermoplastic (GMT), SuperLite—Low Weight Reinforced Thermoplastic (LWRT), Expanded Polypropylene (EPP), Sheet Molding Compound (SMC), Long Fiber Reinforced Thermoplastics (LFT), Continuous Fiber Reinforced Thermoplastics (CFRTPC), and Ultra-High-Pressure Hydrogen Tanks. **Advanced Materials** Division's StrongLite and SuperLite materials captured the highest market shares globally, in their respective categories.

Currently, there is a global trend toward lightweight automotive parts. **Advanced Materials** Division

anticipated this and it's why we had strengthened our investments in R&D years ago so that we could lead in the changing industry. We have been focusing our research on thermoplastic, thermosetting composite materials, and on designing and developing new applications. We've also been developing new materials and manufacturing methods, offering improved functionality and innovative plastic hybrids that represent the latest technologies in the market. We are actively tracking paradigm shifts in the automotive market, evident in the emergence of smart cars and electric vehicles. While keeping pace with this rapidly expanding electric vehicle market, we are exploring opportunities for manufacturing battery cases for electric vehicles. We've helped to commercialize our hydrogen fuel cell technology by developing a hydrogen tank that uses an ultra-light composite material made of carbon fiber wrapped in high-strength plastic liner. In addition, we are accelerating the expansion of our green hydrogen business through the acquisition of Cimarron, a US startup that possesses the world's best high-pressure tank technology. We are also developing future mobility markets, such as eco-friendly automotive vehicles, hydrogen-powered ships, personal air vehicles (PAVs), and aerospace.

We are especially competitive in the high functional film market. Currently, we produce components for Flexible Printed Circuit Boards (FPCB) such as coverlay film (insulation film), 3-layer Flexible Copper Clad Laminate (FCCL), bonding sheet (adhesive sheet), and Electro-Magnetic (EM) shielding film. Furthermore, we are actively responding to the 5G market by successfully developing ion-resistant materials for microcircuit patterns, such as low dielectric materials and OLED displays. And we are expanding into manufacturing materials used in automotive electronics and electronic battery sensors for electric vehicles.

Advanced Materials Division maintains the world's largest market share for StrongLite (GMT) and SuperLite (LWRT)—materials proven to reduce the weight of automobiles. We are now expanding our operations and production facilities globally to keep up with the rapidly growing market for lightweight composite materials for auto parts.



Hanwha Impact

www.hanwhaimpact.com

EXPERTISE

Low carbon energy, convergent technology, mobility

2020 Total Sales

In USD millions

1,013

2020 Total Assets

In USD millions

3,463

With a vision of “We leave a positive impact on humanity and the planet, while driving toward a sustainable future through technological innovation,” **Hanwha Impact** is leading the change for a sustainable future with low carbon, sustainable energy and innovative future-ready projects.

Hanwha Impact aims to lead the Fourth Industrial Revolution through forward-thinking innovations such as low carbon energy, convergent technology, and mobility. Firmly built on our sustainable management philosophy, **Hanwha Impact** secures both sustainable innovation technologies through a range of business development and open innovation via active M&As and strategic investments, in parallel.

Hanwha Impact prioritizes investments for hydrogen-focused low carbon energy, and continues to discover technologies and perform demonstration projects that can be applied across the value chains of the hydrogen industry. In an effort to accelerate the transition of clean energy across our society and industry, we acquired U.S. Power Systems Mfg. (PSM) and Netherlands' Ansaldo Thomassen BV (ATH). This critical acquisition will enable **Hanwha Impact** to realize the true

promise of hydrogen combustion technology, while leveraging existing assets. Our hydrogen combustion technology enables us to provide customers with solutions to retrofit the gas turbines of their LNG-fired power plants to run on up to 65 percent hydrogen fuel. The result is more than 30 percent fewer CO₂ emissions and significantly lower nitrogen oxide emissions. This paradigm-shifting approach is what will propel our ambition into becoming a carbon-neutral society. Currently, we have teamed up with the Korea Western Power to develop technology that ramps up hydrogen content in gas turbines. We plan to increase the proportion of hydrogen in the turbine to 100% to ensure the facility eventually eliminates any CO₂ emissions.

In convergent technology, it is evident that the combination of biotechnology—such as genetic engineering—and data utilization technology shows breakthrough progress. Data utilization technology is expanding into biosciences. We also expect to enter or grow into promising businesses that create disruptive innovations in various industries by utilizing gene and protein biotechnology. In response, **Hanwha Impact** is seeking to gain a competitive advantage by implementing

preemptive investments in companies that have next-generation technologies.

Advances in mobility technology will also accelerate lifestyle changes. The future of mobility will evolve in a way that extends mobility services to meet these changes, while delivering innovation—the value of new mobility—to customers. As a result, **Hanwha Impact** is exploring new opportunities by focusing on large-sized special vehicles that utilize hydrogen fuel and eco-friendly short-distance mobility solutions.

In the meantime, **Hanwha's** purified terephthalic acid (PTA) business is a continuous source of profit for the company. PTA was developed as a base material for polyester to replace natural cotton. It is now used as the primary component in many types of polyester due to its superior resistance to heat, mechanical strength, water resistance, wear resistance, and insulation compared to other products. The applications for PTA are expanding into other uses besides clothing, such as PET resin, film, paint, and industrial fibers. We will further strengthen our competitiveness by improving our PTA-related technologies and continuing to develop related businesses in the value chain.



Hanwha Impact will lead future innovations while pursuing stable growth by leaning into our core projects consisting of low carbon energy, convergent technology, and mobility.

Hanwha TOTAL Petrochemical

www.hanwha-total.com

EXPERTISE

Ethylene, propylene, BD, EG, SM, PX, PE, EVA, PP, gasoline, diesel, jet fuel, LPG, solvents

2020 Total Sales

In USD millions

5,731

2020 Total Assets

In USD millions

6,128

Hanwha TOTAL Petrochemical is a comprehensive chemical and energy company that produces high value-added chemical and energy products. We continue to dominate our market and grow as South Korea's leading company through product innovations, strategic diversified investments, and economies of scale.

Since its founding in 1988, **Hanwha TOTAL Petrochemical** has led the growth of the petrochemical business in South Korea through technological innovations and by executing its market expansion strategy successfully. In 2003, **Hanwha TOTAL Petrochemical** set out to build a foundation to become a global chemical and energy company. The company executed this plan by forming a joint venture with the Total Group, a major French company in the energy and chemical industry. Since then and after becoming a **Hanwha** affiliate, **Hanwha TOTAL Petrochemical** has exhibited solid financial performances. The product portfolio of **Hanwha TOTAL Petrochemical** includes basic chemicals, such as ethylene, propylene, and butadiene. **Hanwha TOTAL**

Petrochemical also produces base chemicals like styrene monomer, paraxylene, and ethylene glycol. With 18 plant units in the Daesan Petrochemical Complex, the company is able to produce a wide range of products from those needed for energy, such as gasoline, diesel, jet fuel, and liquefied petroleum gas, to polymers that are used in feedstock materials, such as polyethylene and propylene.

We are the only company in South Korea that operates a naphtha-cracking center (a core facility in our petrochemical plant), a condensate fractionation unit (a refining facility), and an aromatics plant, all in one single complex. This complex represents a successfully organized vertical system—from sourcing to producing to distributing the final products. The efficiency we've achieved with this system allows us to diversify our business portfolio and pursue stable growth. In 2010, after registering our refining business with the South Korean Ministry of Trade, Industry & Energy (MOTIE), we began as a full-fledged energy business. Since 2017, we have a proven track record of successfully completing a portfolio of large-scale additional

production facilities. We now produce 1.53 million tons of ethylene, 2 million tons of paraxylene, 1.04 million tons of styrene monomer, and 1.12 million tons of polypropylene annually.

We have the No. 1 market share in numerous markets: EVA used in solar cells, HDPE used in bottle caps, EVA used in extrusion coating, flow mark free polypropylene (FMF PP) used in automotive composite materials, high isotactic polypropylene (HI PP) used in electronic applications, and protective polypropylene films for display products. These products have been recognized as World Class Products by MOTIE. We attribute our success, not only to the vertical system we employ and our product diversifications, but also to the vast and global network of the **Hanwha Group**.

YEOCHUN NCC

www.yncc.co.kr

EXPERTISE

Petrochemical
feedstock production

2020 Total Sales

In USD millions

3,343

2020 Total Assets

In USD millions

2,579

YEOCHUN NCC produces high-purity petrochemical base materials. We are enhancing customer value with our advanced production facilities, cutting-edge technology, and domain expertise.

YEOCHUN NCC operates the world's leading naphtha-cracking facility in the Yeosu National Industrial Complex. The facility was built in 1999 and is located on the southern tip of the Korean Peninsula. **YEOCHUN NCC** represents a fifty-fifty joint venture between **Hanwha** and Daelim, two South Korean conglomerates that own naphtha-cracking facilities. The facility annually produces 2.29 million tons of ethylene, 1.28 million tons of propylene, and 6.20 million tons of various petrochemical base materials, including benzene, toluene, xylene, styrene monomer, and butadiene.

With fully automated and optimized processes producing high-purity feedstocks, this state-of-the-art facility gives **Hanwha** affiliates a competitive edge to produce high-quality downstream petrochemical products.

Although our production facilities are already technologically advanced with large-scale production capacities, we're continuing to make improvements. We attribute our improvements and growth each year to loyal customers, the use of a sophisticated management system, and sound financial structure. Additionally, our professional and highly skilled employees effectively combine industry expertise with cutting-edge technology, truly making our workforce a key differentiator.

Supported by steady flow of investments, product specialization, facility expansion, and business focus, we're one of the top Naphtha Cracking Center (NCC) companies in the world backed by a steady stream of investments and continuing to expand our footprint. We are, however, focused and as we continue efforts to improve our capabilities, our expansion will take us across the globe.

Hanwha TOTAL Petrochemical is the leading producer of EVA, used in solar cells, and the global leader in terms of market share.



As a leader in naphtha-cracking production, our **YEOCHUN NCC** plant produces ethylene, propylene, and other petrochemical feedstocks. This state-of-the-art facility gives our **Hanwha** affiliates a competitive edge in petrochemicals.

Hanwha Energy

hec.hanwha.co.kr

EXPERTISE

Cogeneration, solar energy, ESS, O&M, system solution, energy retail, LNG

2020 Total Sales

In USD millions

1,058

2020 Total Assets

In USD millions

4,102

Starting with its cogeneration business back in 2007, Hanwha Energy has diversified its business portfolio—including solar power, ESS, and LNG—to transform into an energy retail business offering a comprehensive set of energy solutions. Our advanced technology is at the core of who we are and the means by which we can develop eco-friendly, highly efficient global energy markets through a forward-looking global energy paradigm.

Hanwha Energy is a comprehensive energy solutions company. We operate cogeneration plants to provide a stable supply of high-quality electricity and ultra-high-pressure steam to companies in national industrial complexes in South Korea. By providing readily available power, our plants improve the competitive advantage of our off-takers. Our energy solutions consistently comply with South Korean government requirements for energy efficiency and greenhouse gas emission reductions. Our relentless pursuit to improve our technology gives us the means to continuously improve our existing solutions and at the same time, seek new ones. To build sustainable growth, we are diversifying our energy business and building businesses overseas

in solar power generation, energy storage system (ESS), operation & maintenance (O&M) business, system solutions, energy retail, LNG business and more.

At Hanwha Energy, we also operate solar power plants in the US, Mexico, Japan, Vietnam, Turkey, and India. More solar power plants are being built in Malaysia and Spain. We are also developing solar projects in the Americas and Australia. In June 2019, we successfully launched and operationalized our energy retail business in Houston, the US. In February 2020, we also began our energy retail business in Australia.

We provide a cloud-based integrated control system for the efficient O&M of solar power plants. Our integrated platforms and solutions are applied across our utility scale solar power plants, ESS and abroad. We also developed a platform to support small-sized distributed energy sources, which was applied overseas in Australia. Our O&M business has helped businesses manage and improve plant performance and deliver stable growth of customer assets.

In addition, we are expanding our energy system solutions with our smart energy

business model. We already built a 152MWh ESS and currently building a 438MWh solar energy-connected ESS in South Korea. In Ireland, we also operate a 120MWh ESS for frequency regulation (FR). Going forward, we plan to implement our energy solutions for distributed energy sources, such as ESS and microgrids in other countries including Japan, the US, Australia and in Europe.

We are also pursuing LNG, a clean energy source as we look to future growth engine and new business opportunities. In South Korea, we are partnering with Hyundai Development Company (HDC) to build a plant in Tongyeong city—a 1GW LNG power plant. Once complete, HDC and Hanwha Energy will jointly supply the LNG needed to power the plant and open LNG terminal rental businesses. Overseas, as part of our strategy to expand our global energy business into new markets, we're entering the gas-to-power market in Vietnam. To this end, we've formed a consortium with Korea Gas Corporation and Korea Southern Power Company to build LNG plants and LNG terminal businesses in Vietnam.

Hanwha Engineering & Construction

www.hwenc.com

EXPERTISE

General construction, residential complexes, urban development, industrial plants, civil engineering, water treatment

2020 Total Sales

In USD millions

3,045

2020 Total Assets

In USD millions

6,669

Hanwha Engineering & Construction is recognized for its ability to successfully complete large-scale and complex projects in the global market, such as building an entire city; constructing chemical plants in the Middle East and North Africa; and completing various real estate projects in the Americas.

Hanwha Engineering & Construction has quickly become a global player by leveraging its extensive experience in construction projects and by applying its new technologies and subject matter expertise across industrial, chemical, and power plants, civil engineering works, commercial buildings, and more. We've been recognized as a top global contractor in *Engineering News Record* and our works are often used and referred to as the "bible of the construction industry."

The Bismayah New City is a USD 10.1 billion project, the largest urban development in Iraq's modern history. It is also Hanwha Engineering & Construction's flagship project. Bismayah city will be the world's largest urban construction that includes infrastructure facilities to support 100,000

households and 300 schools. The Bismayah New City is the first overseas project of its kind by a South Korean company and is expected to be lauded for its sheer development scale and global design of an entirely new city.

In 2014, we demonstrated our technological prowess by successfully building the world's largest domed arena in the Philippines, a bridgehead for our Southeast Asian market entry. We are also building power and petrochemical plants in the Middle East and North Africa, and developing large real estate projects in North America.

In South Korea, Hanwha Engineering & Construction has been responsible for the nation's largest urban development projects that have included the construction of homes for more than 90,000 households across 169 sites for the past 20 years. Recently, we've applied our extensive experience to build and launch a new residential brand, **FORENA**. **FORENA** provides customers with differentiated residential products that connect people to premium living space. We led the industry by pioneering large-scale site construction, including Daedeok Techno Valley, South Korea's first

development project to build an entire city.

We also developed the nation's first advanced membrane filtration water treatment technology and sewage water treatment technology. By leveraging future technology into what we build that is also eco-friendly, we are raising the bar for value that can be derived from construction projects.

This cogeneration plant provides a stable supply of high-quality electricity and ultra-high-pressure steam to companies in the Yeosu and Gunsan national industrial complexes in Korea.



Hanwha Engineering & Construction's business reputation is recognized globally. Our reputation for reliability and dependability has allowed us to secure a series of contracts to build large-scale petrochemical plants in the Middle East and North Africa.

Hanwha Solutions City Development Division

www.hcd21.co.kr

EXPERTISE

Real estate development, including multifunctional industrial complexes

*Regarding Hanwha Solutions' sales and total assets, including the Hanwha Solutions City Development Division, please refer to page 84 for more information.

Hanwha Solutions City Development Division was merged with Hanwha Solutions in April 2021 to enhance its business competitiveness and maximize management efficiency. Our City Development Division exemplifies the kind of business that is needed in the Fourth Industrial Revolution — it is able to use its experience and know-how to develop high-tech complexes and at the same time, operate in a way to generate the trust and loyalty of its local communities.

City Development Division has been recognized as the leading private developer of high-tech industrial complexes since it was established in 2001. Starting with success in Daedeok Techno Valley, additional projects followed, such as the Asan Techno Valley project (2,984,000m², 300 enterprises, 8,000

households), the Seosan Techno Valley project (1,994,000m², 200 enterprises, 6,000 households), the Gimhae Techno Valley project (1,643,000m², 200 enterprises), and the Gyeonggi Hwaseong Bio Valley project (1,745,000m², 200 enterprises). Each completed project stood out as an achievement and garnered high praise. The projects are considered exemplary development models and not surprisingly, they have been benchmarked by several local governments.

Encouraged by these achievements, we've made further investments for the future, breaking ground on the Yongin Techno Valley project in 2015. There is high anticipation Yongin Techno Valley will be an industrial complex that will be home to many R&D centers, companies and startups in IT, fusion technology, and in other areas of technology.

We're also building for the future of our local economies. Our multifunctional industrial complex projects will help revitalize the local economy by improving industrial environments, attracting businesses, and creating local jobs.

Daedeok Techno Valley is the technology hub of South Korea and home of the most technologically advanced companies and research facilities. Daedeok Techno Valley is considered an exemplary model of how a high-tech industrial complex should be built and is credited with revitalizing the local economy.



Finance

Hanwha Life
Hanwha General Insurance
Hanwha Investment & Securities
Hanwha Asset Management
Hanwha Savings Bank

Hanwha Life

www.hanwhalife.com

EXPERTISE

Life insurance, mortgage and personal loans, trust, fund, retirement pension

2020 Total Sales

In USD millions

14,554

2020 Total Assets

In USD millions

117,215



*LIFEPLUS: is the official co-brand name representing a group of Hanwha financial affiliates. It offers financial, health, and cultural content as well as products and services optimized for a variety of lifestyles to help customers make better financial decisions that lead to better life and experiences.

Hanwha Life, which leads the life insurance industry in South Korea, launched Onsure, the first online life insurance sales channel in South Korea. Onsure serves as yet another channel through which we will expand our life insurance business.

Hanwha Life outperforms in asset quality stability, sales, and product development. And we're moving forward, digitizing our advanced capabilities so we can lead in the financial markets of the future worldwide.

Established in 1946, Hanwha Life is not only a leading life insurance company but also it is the first and oldest in South Korea. Early on, we played a critical role in developing the industry and the country's economic growth. In 2020, while expanding, we made sure to remain structurally sound, reporting total assets of USD 117 billion. At the end of 2020, we achieved a 238.7 percent risk-based capital (RBC) ratio, demonstrating the soundness of our asset quality. Our strong ratings from domestic and international agencies attest to our creditworthiness. We have received sterling AAA credit ratings from South Korea's top rating agencies for the past thirteen years.

Hanwha Life is committed to adding innovative products and services that meet a wide range of customer needs. By upgrading our customer, product, and channel (CPC) strategy, we provide customized products and services that solidify our LIFEPLUS brand.

We also innovate our offerings that are aligned to customer life stages. Using Big Data to analyze customer needs, behavior, and interests, we systematically apply this knowledge to better satisfy customers. To this end, we've trained our call center customer service professionals to deliver exceptional care.

Our efforts have been rewarded with the Grand Prize—the Korea Service Award from the Korea Standards Association in the life insurance sector for eight consecutive years through 2017. We were also inducted into the Hall of Fame. The Quality Index survey, managed by Korea Management Asset Consulting, gave us top ranking for ten straight years for customer service and eight years for our call centers. Since our first certification in 2007, the Korea Fair Trade Commission has awarded Hanwha Life with seven consecutive Certifications for Excellence in Consumer-Centered Management (CCM), which led us to be inducted into its CCM Hall of Fame in 2019.

To increase sales and profitability, we are focusing on value-based sales, improving product features, and expanding protection-type and variable insurance sales. We are also diversifying our investment assets and applying risk management to aggressively and preemptively respond to changes in the financial market. In 2019, we continue to sharpen our competitiveness in the market by using multi-channels to provide differentiated products and services and by enhancing communications across headquarters, sales reps, and customers. However, in anticipation of market changes, we're upgrading our digital capabilities, product development, digital technology, and our governance-oriented data support.

We're committed to helping our subsidiaries all over the world in their respective local

markets. We provide all the necessary support to ensure that our subsidiaries can improve their competitiveness and win in their markets. One example is our Vietnam subsidiary where we executed an effective localization strategy and a strengthened sales network nationwide. As a result, our Vietnam subsidiary became a success story, achieving profitability—a first for a South Korean insurer in Vietnam. In China, our subsidiary Sino-Korea Life Insurance has a newly appointed local CEO and seeking a more thorough localization and digital-based growth. In Indonesia, our subsidiary is building a balanced profit structure that is adding value to its growth and allowing it to increase its market share. Moving forward, we are setting the foundation that will enable us to be established as a comprehensive financial solutions provider across major Asian hubs. From here, we will promote digital financial products and at the same time, pursue future growth engines.

In 2021, Hanwha Life continues to secure profitable structures that support value-based sales and primary profit expansion. We plan to expand our global business and secure growth engines in Fintech and Big Data. We push for innovation and, with each success, we're inspired to drive forward as a world-class life insurance company.



Hanwha General Insurance

www.hwgeneralins.com

EXPERTISE

Long-term insurance, automobile insurance, general insurance, mortgages, personal loans

2020 Total Sales

In USD millions

6,622

2020 Total Assets

In USD millions

17,904

Hanwha General Insurance is a major insurer with USD 17.9 billion in total assets. We are internationally recognized for our financial stability and steady growth using diversified asset management strategies and increasing customer value.

Established in 1946, Hanwha General Insurance is the first South Korean insurance company funded solely by domestic capital. Throughout history, we've played a pivotal role in developing South Korea's general insurance industry. Today, we're a major insurer with total assets of USD 17.9 billion. We use advanced services to enhance customer value and offer a comprehensive product portfolio ranging from long-term insurance to auto and general insurance.

We created a Consumer Protection charter, improved service quality, and minimized customer inconvenience to provide an overall superior customer experience. We also expanded the scope of what our call center agents could do to ensure a one-call, one-stop system. In addition, we were the first South Korean insurer to

introduce an electronic signature system, making it easier for customers to complete transactions from their mobile devices. We have even introduced mobile applications for long-term insurance, Smart Insu, and an app for auto insurance, Smart Chadori. Both were specifically designed to cater to the needs our customers. Since then, more than one million customers have installed both applications.

Our efforts to improve customer service have been recognized by South Korean government organizations with the Consumer Centered Management (CCM) certificate. Our customer service is evaluated by the Korea Consumer Agency and certified by the Fair Trade Commission every two years. Biennially, for the last 12 years, we've been given the certificate, affirming the excellence of our customer-centric services.

Our company is on an upward trajectory to build a risk-based management structure, improve long-term insurance loss ratio, advance the compensation process, and increase high yield,

higher-value-added contracts. We are posting healthy financial growth by seeking diverse, stable bonds and alternative investments at home and abroad.

As a result, in 2019 we were favorably scored by global credit rating agencies for our financial stability and growth potential. Both S&P and A.M. Best, the international insurance industry rating organization gave us a rating of A for our financial strength and potential growth last year.



Hanwha General Insurance has implemented a set of customer-centered business processes and has organized its management to deliver customer-value-oriented solutions. Our solid financial structure allows us to invest in research to develop the products and services with the customer's best interests in mind.

Hanwha Investment & Securities

www.hanwhawm.com

EXPERTISE

Securities brokerage and underwriting, asset management

2020 Total Sales

In USD millions

2,293

2020 Total Assets

In USD millions

10,348

Hanwha Investment & Securities is a trusted financial investment partner dedicated to providing sources for stable and diversified income even amidst a rapidly changing financial environment in an era of digital transformation.

Established in 1962, Hanwha Investment & Securities provides comprehensive asset management services, including brokerage and acquisition of stocks, bonds, and derivatives, as well as sales and asset management services for various financial products. With our differentiated systems and high-quality talent, we have successfully established ourselves as a reliable asset management partner. Our financial products and customer-oriented services are offered domestically and overseas.

In the ever-changing capital market, we're grounded by our company policy to listen to our employees, our customers, and to continuously encourage innovations within the organization. We differentiate our services by putting customers first and building customer trust.

We have established a stable and diversified income structure with our business portfolios in investment banking, trading, wealth management, and institutional investors. To be able to readily respond to the rapidly changing digital financial environment, we developed unique ways to ensure simpler and more convenient investment experiences for our clients. Our easy-to-use STEPS application displays essential information that is beneficial to both experienced and inexperienced investors. The application's user-friendly e-commerce-style platform provides features to customize your investment portfolio and matches each customer's investment tendency and areas of interest to an easily accessible set of digital financial services. We have improved even the intuitive features of our mobile trading system and continue to upgrade others based on customer feedback.

Hanwha Investment & Securities continues to grow its digital financial platform so it can provide differentiated products and services that can respond to digital transformations and trends. In July 2017, we established the Data Analytics

Lab, the first Big Data analysis company in the South Korea's financial investment industry. The Lab conducts research on various topics such as Big Data analysis and then offers general consultation and applications consultation. As part of our efforts to expand our global operations and secure a new growth engine, we officially launched our subsidiary in Vietnam in December 2019, as well as one in Singapore, Pinetree Securities Corporation, in December 2020. Pinetree Securities Corporation is designed to deliver a digital financial platform offering competitive products and services. We plan to expand our global business by identifying promising new alternative investment opportunities and unlisted companies in Southeast Asia.

Our business motto is "To grow together" with our clients, shareholders, and employees with sustainable products that yield stable profitability. As a trusted and financially stable company with expertise in a range of industries, we are confident we can build a better future for our customers.

Hanwha Asset Management

www.hanwhafund.com

EXPERTISE

Asset management

2020 Total Sales

In USD millions

97

2020 Total Assets

In USD millions

707

Hanwha Asset Management is one of the top three asset management companies in South Korea. With our comprehensive operation systems, innovative solutions, and customer-focused management philosophy, we're rapidly becoming an investment company of choice in Asia.

Founded in 1988, Hanwha Asset Management has grown into a comprehensive asset management company offering a full range of financial instruments, including stocks, bonds, MMFs, fund of funds, social overhead capital, derivatives, real estate, ETFs, and PEFs in both domestic and overseas capital markets. At the end of 2019, we were among South Korea's top three asset management companies with USD 94.83 billion in assets under management (AUM). We have people with unparalleled expertise who operate highly organized systems across all areas, including product development, research, compliance, and risk management. All of our products and services cater to the needs of our customers because we strictly adhere to our principle and

management philosophy to place our customers first before anything else.

Hanwha's expertise and industry-leading innovations have been recognized with numerous industry awards in South Korea, including the Top Prize in TDF and general funds at the 2020 Korea Fund Awards by KG Zeroin; the Grand Prize in alternative investment funds at the 2019 Korea Securities Awards by *Seoul Economic Daily* news media; the Best Fund Seller Award in ETF at the 2019 Maekyung Securities Awards by *Maeil Business News Korea*; and the Top Prize in international bonds at the 2019 Korea Fund Awards by KG Zeroin.

Hanwha Asset Management is accelerating its strategic overseas expansion to become a leading asset management company in Asia. Our Singapore subsidiary manages equity and alternative investments in the pan-Asian market. We acquired a New York-based subsidiary to handle our assets in the US and other countries. We have also established a Chinese subsidiary as a wholly foreign-owned

enterprise (WFOE) so we could better execute our global strategy and expand our business footprint overseas.

The foundation of our principles is customer satisfaction, protecting investments, and growth. At Hanwha Investment & Securities, we're committed to responsible management and service innovations to ensure we can be a reliable financial partner.



Hanwha Asset Management is widely recognized for its innovative solutions and a disciplined approach to asset management. With them, Hanwha Asset Management's mid- and long-term plan is to become the best asset management company in Asia.

Hanwha Savings Bank

www.hanwhasbank.com

EXPERTISE

Deposits, commercial and personal loans

2020 Total Sales

In USD millions

52

2020 Total Assets

In USD millions

1,006

Hanwha Savings Bank is a financially sound blue-chip savings bank. We faithfully fulfill our role as a microfinance institution by supporting small and medium-sized businesses with great potential, developing new products, and providing convenient services.

Founded in 1997, Hanwha Savings Bank joined the Hanwha Group in 2008 and has since grown into one of the most stable savings banks in the industry. Even in unfavorable business climates, we've been able to relentlessly pursue external growth with our experienced sales teams and a highly disciplined management. We also found success by extending the fundamental roles of microfinance institutions and supporting small and medium-sized businesses with great potential.

Today we are a sound savings bank, continuing to grow with the confidence of our customers on our side. We constantly strive to take care of our clients and our communities by offering products that serve their needs. Our risk management system enables us to perform faithfully and operate as a financially secure institution, providing top-quality financial products and services to both individuals and businesses alike.

Services & Leisure

Hanwha Hotels & Resorts
Hanwha Solutions Galleria Division
Hanwha Station Development

Hanwha Savings Bank is a stable financial institution that has earned its customers' trust over the years with its expert sales team, financial products and management discipline.



Hanwha Hotels & Resorts

www.hwrc.co.kr

EXPERTISE

Resorts, hotels, leisure

2020 Total Sales
In USD millions

373.

2020 Total Assets
In USD millions

2,058

Hanwha Hotels & Resorts is becoming South Korea's premier leisure and service provider of resorts, and hotels. We deliver a differentiated customer experience through our premium condominium chains, golf courses, aquariums, theme parks, and boutique hotels.

Hanwha Hotels & Resorts began operations in 1979 as the developer of South Korea's first resort condominium project. We own one of South Korea's top condominium chains that include the Saipan World Resorts in Saipan, boasts over 5,500 guest rooms across 12 properties. In Japan and South Korea, we own and operate five premier golf courses totaling 108 holes.

We also operate Seorak Waterpia, Pororo Aqua Village in Gyeongju, Jeju Therapy Center, Royal Saddle Equestrian Society, and Jade Garden in Chuncheon—all renowned attractions and the envy of other companies in the industry. In addition, we operate 63 Square on the Han River, which offers high-quality services and attractions, including 63 Art and an elaborate aquarium.

With our expertise and technologies used in the construction of Sea World (now Aqua Planet 63), the first aquarium in South Korea, we also built the breathtaking Aquarium Belt. The Aquarium Belt is South Korea's largest network of aquariums located across five cities: Suwon (Gwanggyo), Jeju, Yeosu, Ilsan, and Seoul. And in partnership with Geoje city government, we recently created a new tourist destination, the Hanwha Hotels & Resorts Geoje Belvedere. The marine resort with 470 rooms and a private marina opened in 2018 to rave reviews.

We also have transformed THE PLAZA into a world-class 408-room luxury boutique hotel with six restaurants and bars, nine convention halls, a fitness center and spa. Located in the heart of Seoul, THE PLAZA offers impeccable service and experience accented by its unique interior design. In 2016, the hotel became the first in South Korea to join the Autograph Collection, a luxury portfolio owned by Marriott International. Our exceptional customer service and upscale accommodations have been recognized by the hotel industry. THE PLAZA was selected as one of the Top 25

Hotels for Luxury and Best Service by the TripAdvisor 2019 Travelers' Choice Awards. It also ranked No. 2 of the nine Best Luxury Hotels in Korea by *Global Traveler*, a worldwide business travel magazine. The International Hotel Awards selected THE PLAZA as its 2018 Best Luxury Hotel and Best City Hotel, the first of its kind in South Korea.

Connoisseurs can experience seven outstanding cuisines in the landmark 63 Building, along with a panoramic view of Seoul. Food is prepared with fresh seasonal ingredients by top award-winning chefs.

Hanwha Solutions Galleria Division

galleria.hanwhasolutions.com

EXPERTISE

Retail, fashion, F&B

*Regarding Hanwha Solutions' sales and total assets, including the Hanwha Solutions Galleria Division, please refer to page 84 for more information..

Hanwha Solutions Galleria Division was merged with Hanwha Solutions in April 2021 to enhance its business competitiveness and maximize management efficiency. Our vision is to become the No. 1 premium content producer. To this end, we will offer leading trends and unique customer experiences that no other retailer can provide.

Since its 1976 founding in South Korea, the Galleria Division has specialized in retail services with a strong focus on department stores. We also operate other retail businesses, including global brand direct sourcing, the retail of exclusive brands, and Food & Beverage.

Currently, we have five stores across Korea in major cities of Seoul, Suwon (Gwanggyo), Cheonan, Daejeon, and Jinju. Together, the Galleria department stores offer an unparalleled suite of upscale shopping experiences. They carry distinctive brands and follow local fashion trends, while also offering a food culture that is sure to satisfy every discerning taste. Our Galleria Luxury Hall in Seoul is South Korea's preeminent department store, featuring the world's leading luxury brands.

The Luxury Hall East offers high-end luxury brands with unique values while the other side of the building, the Luxury Hall West, showcases global fashion trends, fine dining, and premium services.

The Galleria Gwanggyo, the largest of the five department stores operated by the Galleria Division, represents a new paradigm in nature-friendly multicultural shopping complexes. Hanwha Galleria Timeworld, a subsidiary of Hanwha Solutions, primarily oversees the Galleria Timeworld department store located in the metropolitan city of Daejeon. Galleria Timeworld specializes in luxury fashion brands from around the world and boasts the highest level of customer convenience combined with its reputation as the premier luxury shopping destination in the region.

Our fashion business focuses mainly on the retail of exclusive brands and stores. We direct-source from global luxury fashion houses, such as Italy's Stefano Ricci, France's Fauré Le Page, Germany's luxury skin care brand NOESA and Fred Segal – lifestyle retailer from the US. Our collection of select premium brands and our ability to source the most exclusive fashion brands are

unmatched in the markets we operate – it's our competitive advantage that enables us to continually expand our footprint. We operate Korea's high-end fashion boutiques, such as G.STREET 494 and G.STREET 494 HOMME, making us a leading fashion company and consistently the first to introduce the world's latest trends in our industry.

Galleria Division's F&B business continues to raise its brand value by promoting the GOURMET 494 brand. GOURMET 494 is the first grocerant in Korea that organically combines the convenience of a high-end grocery with a restaurant. It delivers the highest level of gastronomy where customers can shop and eat in one communal setting. We are also developing a variety of GOURMET 494 private brand products that are made with carefully curated ingredients in collaboration with gourmet restaurants. We're recognized for high quality and our brand products were the highest ranked in the private brand category of department stores by the Korea Brand Power Index (K-BPI) in 2020

Seorak Sorano combines the beautiful natural scenery of the East Sea with the high peaks of Mount Seorak, where guests can appreciate a soothing and relaxing experience. Guests can also enjoy leisure facilities such as Seorak Waterpia, Seorak Cinerama, Film Lot, and Plaza CC Seorak.



Galleria Luxury Hall's luxury brands, global fashion trends, fine dining, and premium services are all part of our vision to create the next-generation of luxury malls that cater to the upscale and refined shopping experience.

Hanwha Hotels & Resorts Estate Division

www.hanwhaestate.com

EXPERTISE

Comprehensive real estate services

2020 Total Sales

In USD millions

122

2020 Total Assets

In USD millions

44

Hanwha Hotels & Resorts Estate Division has extensive experience in managing more than 100 diverse facilities and properties around the nation. We offer differentiated solutions by maximizing customer asset value and providing advanced energy-efficient and eco-friendly models.

Estate Division is a comprehensive real estate services firm offering real estate consulting, asset and facility operation management, construction, security solutions, and energy-efficient projects designed to increase the value of client assets.

Our real estate consultations are designed to yield maximum profits through the employment of optimized solutions. Our consultations begin with a thorough market analysis and innovative perspectives appropriate to customer and property characteristics. In asset and facility management services, we assign highly skilled and experienced professionals to the project to provide ongoing administrative and technical support. Harnessing our full spectrum of facility management experience, we provide

high-quality services that fulfill customer needs.

We also have continually expanded business and enhanced our competitiveness. Building on our deep operational expertise, we have provided real estate management services for more than 100 Hanwha affiliate buildings and client assets, including office buildings, data centers, resorts, complex facilities, and research centers. Our years-long management experience has sharpened our skills in property management and deepened our expertise in electrical facilities, machinery, equipment, disaster prevention, firefighting, communications facilities, building maintenance, and security. Our comprehensive technical services include completed construction site inspections, safety audits, functional checks of firefighting facilities, and physical inspections.

In the construction and security businesses, Estate Division guarantees excellent construction quality and safety by rigorously following basic principles across process, safety, construction, and quality control. We also check energy flow

throughout each building and provide eco-friendly models for energy efficiency. Our converged services add up to one-stop solutions for all customer needs.

We have also taken advantage of our nationwide network and solid business portfolio to steadily increase our stake in real estate management. Building on that portfolio, we expect to become an innovator in real estate services as we reinvent and enhance the value of commercial space by creating synergies from our diverse businesses.

Estate Division is an ever-evolving real estate services provider. We create new cultures and environments by nimble adjustments in how we work. We also pursue innovation through communications and collaboration. Our goal always is to increase the value of customer real estate assets.



Hanwha Station Development

www.hwsd.co.kr

EXPERTISE

Commercial development, property management

2020 Total Sales

In USD millions

118

2020 Total Assets

In USD millions

471

Hanwha Station Development is a premier developer and manager of commercial complexes whose core competencies are in its experience in developing and operating advanced railway stations.

Hanwha Station Development is our nation's premier developer and manager of railway stations. Since our founding in 1987, we have pioneered the retail and leisure culture by combining commercial complexes with private stations. We developed building complexes in the centrally located Seoul Station and the Cheongnyangni Station—logistics hubs in the northeastern part of Seoul. By leveraging our expertise and capabilities in business assessment, concept development, project financing, lease marketing, construction management, and facility operation, we are fast becoming an industry-leading developer and manager of commercial complexes.



Located in the northeastern part of Seoul, Cheongnyangni Station is a nine-story complex with more than 177,793 square meters of space, including three underground levels. With a department store, an outlet mall, a theater, and restaurants, it is driving economic growth for the community around it.



Corporate Social **Responsibility**

SOCIAL RESPONSIBILITY

- Eco-Friendly Solar Energy

As a world-class solar energy business, our mission is to achieve sustainable growth; our guide is our social responsibility. This is why we're educating children through eco-friendly programs, and people to join the energy revolution through activities that counteract climate change and help the environment. From installing entire solar power generation systems to make communities energy self-sufficient, building **Hanwha** Solar Forest to fight deforestations in China to cleaning up the Mekong river in Vietnam, we're not only using solar energy, we're making a difference.



Hanwha solar modules donated to the World Economic Forum Congress Center in Davos

Having installed a total of 640 solar modules on a 1,000-square-meter roof on the World Economic Forum Congress Center, we will be able to reduce 20 tons of CO₂ emissions per year.

- Happy Sunshine Campaign
- Hanwha Hope Project: Happy Sunshine
- Hanwha Solar Forest
- Solar modules donated to the World Economic Forum in Davos
- Clean Up Mekong Campaign

Happy Sunshine Campaign

Hanwha is driving the use of sustainable energy in communities with expertise gained from vertical integration of our solar businesses. Our best-known program is Happy Sunshine, a project where we donated a total of 2,187kW solar power generation systems to 320 welfare centers in South Korea to help them save on utility bills. We also operate **Hanwha** Hope Project where we donated solar power generation systems to elementary schools in underserved areas in China.

Hanwha Solar Forest

Since 2011, the **Hanwha** Solar Forest campaign has planted 510,000 trees across eight locations in Korea, Mongolia, and China. Our three forests in China and

one in Incheon used the seedlings grown by solar energy facilities and donated by **Hanwha**. **Hanwha** Solar Forest is the first demonstration of how solar energy can be used to prevent desertification. The UNCCD has praised it as a best practice, urging others to follow.

Solar Panels Donated to Davos

The World Economic Forum, held annually in Davos, Switzerland, draws attention to pressing issues facing the world, such as environmental sustainability. In support, since 2013, we have donated photovoltaic modules to the City of Davos. The solar modules donated by **Hanwha Solutions** have a capacity of 340KW. This amount of energy is enough to reduce 20 tons of CO₂ emissions per year.

Clean Up Mekong Campaign

In June 2019, to commemorate World Environment Day, **Hanwha** launched the Clean Up Mekong campaign to help address one of the world's ongoing environmental issues: water waste. We donated solar-powered boats that could remove wastes from the Mekong River before the river water empties into the Pacific Ocean. We also developed a digital media campaign to publicly raise environmental awareness and educate the Vietnamese people on the use of eco-friendly energy and their responsibility to prevent climate change.

SOCIAL RESPONSIBILITY

- Culture, Arts, and Sports

At **Hanwha**, we're committed not only to our customers and employees but also to the people who live in the communities where we do business. Giving back is part of our culture and we do this through professional organizations and financial support. We engage in activities that help keep dreams alive and enthusiasms going. And by combining our professional talents with our desire to do good, we're turning ideas into practical solutions to improve lives and the world in which we live.



Seoul International Fireworks Festival

Since 2000, **Hanwha** has annually held the Seoul International Fireworks Festival to put on spectacular fireworks shows with themes around optimism and dreams.

- Orchestra Festival with Hanwha
- Hanwha Classic
- Seoul International Fireworks Festival with Hanwha
- Hanwha Eagles
- Team Hanwha Q CELLS

Arts and Culture

Hanwha supports a range of arts and cultural events. Since 2000, we have sponsored the Orchestra Festival, the largest event of its kind in South Korea. Our **Hanwha** Classic has performed classical music since 2013. In recognition of popularizing classical music and promoting the Korean culture and arts, **Hanwha** was awarded the Grand Prize of the Presidential Award at the Mecenat Conference & Awards hosted by the Korea Mecenat Association in 2006 and 2011. In 2014, we received the Achievement Award at the SAC Awards by Seoul Arts Center.

Seoul International Fireworks Festival

Hanwha hosts the Seoul International Fireworks Festival with the world's leading fireworks technology companies, lighting up the sky over the Yeouido Hangang River Park every autumn. Since its debut in 2000, the festival has wowed over a million spectators, providing unforgettable memories for families and friends. With the slogan of *Sharing Hope through Fireworks*, this has become a flagship cultural festival. At the 2019 festival, we hosted a variety of events and seminars including the Fireworks Atelier, an art exhibition held from the 1st through the 5th of October. A unique attraction at the exhibit features a series of interactive kinetic light sculptures that creatively recreates the fireworks.

Operating and Assisting Sports Teams in South Korea

Through sports, **Hanwha** has created positive energy and communicated inspirational messages to sport fans and followers. In 1986, we founded the **Hanwha Eagles** to help revitalize professional baseball as a national favorite pastime. We also established **Team Hanwha Q CELLS** in 2011 to promote golf in South Korea and hosted the annual **Hanwha Classic**, the nation's top golf tournament.

SOCIAL RESPONSIBILITY

- Talent Development and Employee Volunteers

Since the **Hanwha** Social Responsibility Center was founded in 2002 to commemorate the company's 50th anniversary, **Hanwha** has called upon each affiliate companies to participate by sending volunteer teams for various social activities to give back to the communities. At the same time, **Hanwha** makes great efforts to identify and nurture the talents who can someday become future leaders of our society.



Hanwha-KAIST Science Outreach Program, Convergence Science Camp
Hanwha partnered with KAIST to jointly host a science camp to nurture future scientists.

- Bugil Foundation
- Hanwha Science Challenge
- Hanwha-KAIST Science Outreach Program
- DreamPlus
- Volunteer Service
- Hanwha Braille Calendar

Supporting Young Leaders of the Future

Hanwha believes that fostering talents, will ultimately contribute to society. Since **Hanwha's** foundation, we have expanded our programs to invest in education. This was why we established the Bugil Foundation in 1976, which is now a prestigious private school. And in 2011, we began sponsoring the **Hanwha** Science Challenge, a high school science competition aimed at discovering outstanding students in science. In 2016, we began hosting the **Hanwha-KAIST** Science Outreach Program, a science education program for middle school students who have a special gift in science. Through this program we help to support and grow their skills and ambitions as it relates to science and engineering.

Launched in 2014, our DreamPlus program is an open innovation brand of **Hanwha Life**, designed to create value through collaboration based on connectivity. This program offers growth opportunities to startups, innovation platforms to companies, and diverse options for the general public seeking to start a business or find a job in promising new areas.

Caring Employee Volunteers

Hanwha actively engages in social contributions with the help of its employees. Our employees are involved in the Social Contribution Steering Committee to increase the transparency and effectiveness of our activities. Every October to celebrate **Hanwha's** founding, all affiliates participate in volunteer services for

the disadvantaged. Since 2020, we have implemented a range of programs to help communities suffering from the COVID-19 pandemic. We are actively engaged in helping to overcome the national crisis by delivering quarantine supplies and daily necessities to social welfare institutions and the disadvantaged. Our work for people in need keeps us committed to our philosophy to do good for all and for always.

Hanwha Braille Calendar

Since 2000, **Hanwha** has annually produced and donated 50,000 braille calendars for the visually challenged. These braille calendar donations represent our ongoing commitment to help everyone read and use the calendars for all seasons, holidays, and cycles, solar or lunar.

ENVIRONMENTAL AND SAFETY RESPONSIBILITY

Hanwha supports a sustainable future by proactively responding to a changing global energy paradigm and by building a corporate culture that embraces environmental protection and safety. We are expanding new and renewable energy businesses centered on solar energy. In response to climate change, we strive to reduce environmental impact with low-carbon energy sources in all areas of our businesses.



Hanwha Solutions acquired the Environmental Management Systems Certification (ISO14001) and joined the K-RE 100 initiative

Hanwha Solutions Q CELLS Division site worldwide acquired the Environmental Management Systems Certification (ISO14001), which verifies minimal environmental impact in the entire production, products, and services process and implemented the Korean RE100 initiative to completely replace electric power required for business activities with renewable electricity.

- Reduced energy usage
- Reduced energy costs
- Reduced greenhouse gas emissions
- Reduced the use of water
- Reduced the volume of wastewater and other waste

Protecting the Environment and Addressing Climate Change

All **Hanwha** affiliates have adopted and systematically practice environmental safety and health policy by organizing a company-wide Environmental Safety and Health Committee that puts the CEOs, senior executives, and general managers in charge. Each business site implements sustainable management practices for environmental safety and health, including accident prevention overseen by an individual committee. In addition, to ensure we share, improve, and develop best practices among business sites, we hold regular meetings and workshops.

Responding to Climate Change

Since 2013, **Hanwha** has provided free classes on solar panels to increase awareness of climate change. And by collaborating with government and environmental NGOs since 2016 to create jobs, we've established a solar startup academy where anyone wanting to start a solar energy business can be trained to do so. Our entry into the hydrogen ecosystem market in 2020 started with the commercial operation of Daesan Green Energy, the world's largest hydrogen fuel cell power plant. And with greater investments in eco-friendly plastic research, we're expecting to accelerate our transition into a circular economy.

Establishing a Culture of Safety

Hanwha works to gain community trust by promoting safety and creating safe workplaces. It's part of our corporate culture. Along with regular safety leadership training for executives and team leaders, we developed a diagnostic tool to monitor each employee's safety awareness. This system identifies and improves an employee's development areas and then encourages changes in behavior that align with to better and safer work culture. In 2020, we expanded our diagnosis to partner company employees to establish a safety culture across our supply chain. Additionally, we are reviewing historical data to identify when to apply stricter safety regulations to prevent accidents and build an advanced safety culture.

WINNING PARTNERSHIPS

Hanwha believes our partners are also part of our family. For small and medium-sized business partners, we help create self-reliant environments and encourage good management over them. We support our partners to build a foundation for the growth and independence.



Building an eco-friendly energy self-sufficient project on South Korea's Jukdo Island

In collaboration with Chungcheongnam-do, Hanwha transformed Jukdo Island to become energy self-sufficient.

- Agreements on fair trade and mutual growth
- Co-prosperity fund
- Ongoing exchange meetings with partner companies
- Competency enhancement programs for partner companies
- Energy self-sufficiency project on South Korea's Jukdo Island

Commitment to Mutual Growth

Since 2009, **Hanwha** has fostered collaborative partnerships with over 1,500 small and medium-sized enterprises. We've helped them grow their businesses by strengthening their core competencies, supporting their financial needs, and guiding them to engage in fair trade practices. In 2011, we promoted mutual growth by working collaboratively with our partners instead of competing against them. Since then, we have created an annual co-prosperity fund of USD 183 million for this mutually benefitting partnership.

Building Winning Partnerships

Leveraging our spirit of "trust and loyalty," **Hanwha** stays connected with our suppliers. We work frequently with partner companies and have put into practice our belief in "Going Further Together" by engaging in joint businesses, exchanging technology, sharing information, and providing exemptions from performance guarantees. We are expanding industry-specific programs to help our partners become more competitive as they expand their domestic and international sales networks. We are also supporting their innovations, education, equipment purchasing, and assisting them in executing best practices for safety, process, and quality control.

Invigorating the Regional Economy

Hanwha helps suppliers in rural areas to sell their products at our retail department stores. For example, when we find hidden high-value-added agro-fishery products that can help the local economy, we stock them at our local retail stores. Also, using our micro-grid business, solar energy-linked ESS (Energy Storage System) technology, we transformed Jukdo Island in Chungcheongnam-do into an energy self-sufficient island, reducing energy costs and helping tourism. **Hanwha** is committed to social impact investments to benefit Southeast Asian communities and bring financial security to the regions.

HUMAN RESOURCES

Hanwha pursues a future-oriented organizational culture that continuously innovates while overcoming challenges. To this end, we recruit talented people from all over the world and sponsor programs that help employees grow into global talents. *Young Hanwha* is a program that fosters this effort, helping us to move forward and build on the passion that is part of our legacy and foundation.



Growing Hanwha with global talent

Together, Hanwha's worldwide talent is building *Young Hanwha*.

- Global talent program
- Overseas training programs
- Programs for core talent
- Work-life balance policies including paternity leave
- One-month sabbaticals
- Study leave
- Flexible work shifts and an end to overtime
- Job placement assistance

Sharing Values

Hanwha strives to hire creative individuals who are driven to innovate. We seek people who pursue excellence and will be loyal to our customers, colleagues, and company values. We seek people who work hard to achieve their goals and understand the importance of supporting a greater cause. We develop global talent with professionalism and by providing a range of training programs for specific jobs and positions.

Cultivating Global Leaders

Hanwha continues to invest in talent. Our global talent program nurtures employees with potential and interests in global business. In our regional specialist

program, we send associate and junior managers all over the world so they can experience the business and culture of those countries and become local experts. We also operate a special program to identify and develop executive talent to lead **Hanwha's** future and growth. In our commitment to develop **Hanwha's** future global leaders, we sponsor select employees pursuing their masters or doctoral degrees from the top universities at home and abroad. Our company also provides job shadowing and mentoring opportunities for our employees so they can experience management and leadership.

Promoting Work-Life Balance

Hanwha's company-wide work-life balance policies are designed to improve an employee's quality of life. Our efforts have received broad recognition. We're listed as one of Korea's 100 best places to work as a family-friendly and gender-equality company. When we commemorated our 64th anniversary in 2016, we announced the *Young Hanwha* program and introduced corporate culture initiatives like getting a one-month sabbatical when promoted, flexible work shifts, study leave, and support for career development. These initiatives are all contributing to the foundation that will ultimately help **Hanwha** become a global top-tier company.

AMERICAS

- Canada **Hanwha Q CELLS** (sales & marketing)
- Canada **Hanwha Canada Development** (solar business management)
- Chile **Hanwha Q CELLS** (downstream solar)
- Chile **Hanwha Mining Services Chile** (chemical products sales & blasting service)
- Mexico **Hanwha Advanced Materials** (lightweight composite products)
- USA **Hanwha Aerospace USA** (producing aircraft engine components)
- USA **Hanwha Mining Services USA** (chemical products and blasting agents sales)
- USA **Hanwha International** (trading)
- USA Eagle Petroleum (oilfield development)
- USA **Hanwha TechM** (powertrain assembly)
- USA Universal Bearings (producing bearings)
- USA **Hanwha Machinery America** (machine tool sales)
- USA **Hanwha Techwin Automation Americas** (chip moulder sales)
- USA **Hanwha Techwin** (video surveillance system sales & marketing)
- USA **Hanwha Power Systems** (energy equipment sales and R&D)
- USA **Hanwha Azdel** (lightweight composite materials)
- USA **Hanwha Advanced Materials** (lightweight composite materials and products)
- USA **Hanwha America Development** (real estate development)
- USA **Hanwha Q CELLS USA** (EPC)
- USA **Hanwha Q CELLS America** (sales & marketing)
- USA 174 Power Global Corporation (sales & marketing)
- USA **Hanwha Life Investment** (investment)
- USA **Hanwha Asset Management (USA)** (asset management)

EMEA

- Czech Republic **Hanwha Advanced Materials** (lightweight composite materials and products)
- France **Hanwha Q CELLS** (sales & marketing)
- Germany **Hanwha Europe** (trading)
- Germany **Hanwha TechM** (machine tools sales)
- Germany **Hanwha TOTAL Petrochemical Europe** (sales)
- Germany **Hanwha Q CELLS GmbH** (R&D)
- Germany **Hanwha Q CELLS Berlin** (sales & marketing, EPC)
- Italy **Hanwha Power Systems** (energy equipment sales & marketing)
- Italy **Hanwha Q CELLS** (sales & marketing)
- Russia **Hanwha Power Systems** (energy equipment sales)
- Saudi Arabia **Hanwha Saudi Contracting** (operation support)
- Turkey **Hanwha Q CELLS** (sales & marketing, EPC)
- UAE **Hanwha Techwin** (video surveillance system sales & marketing)
- UAE **Hanwha Power Systems** (energy equipment sales & services)
- UK **Hanwha Techwin** (video surveillance system sales & marketing)
- UK **Hanwha Q CELLS** (sales & marketing)

ASIA PACIFIC

- Australia **Hanwha Mining Services Australia** (chemical products manufacturing and sales & blasting service)
- Australia **Hanwha Defense Australia** (sales & marketing)
- Australia **Hanwha Q CELLS** (sales & marketing, EPC)
- China **Hanwha China** (supporting Hanwha affiliates in China)
- China **Hanwha Advanced Materials** (lightweight composite materials and products)
- China **Hanwha Q CELLS** (sales & marketing)
- China **Hanwha Advanced Materials** (lightweight composite products)
- China **Hanwha TOTAL Engineering Plastic** (producing polypropylene)
- China Sino-Korea Life (life insurance)
- China **Hanwha Corporation** (trading)
- China **Hanwha Q CELLS Technology** (producing PV ingots)
- China **Hanwha Chemical** (producing PV ingots)
- China **Hanwha Q CELLS** (producing solar cells, modules, and R&D)
- China **Hanwha International** (trading)
- China **Hanwha Techwin Shanghai** (chip moulder sales)
- China **Hanwha Power Systems** (energy equipment sales & marketing)
- China **Hanwha Chemical** (trading)
- China **Hanwha TOTAL Petrochemical Trading** (polyethylene and polypropylene sales)
- China **Hanwha Advanced Materials** (lightweight composite materials and products)
- China **Hanwha Q CELLS** (sales & marketing)
- China **Hanwha TechM** (machine tools and powertrain assembly)
- China **Hanwha Techwin** (producing video surveillance system and sales)
- China **Hanwha Asset Management** (asset management)
- India **Hanwha International** (trading)
- India **Hanwha Chemical** (sales)
- India **Hanwha Q CELLS** (sales & marketing)
- Indonesia **Hanwha Mining Services Indonesia** (chemical products manufacturing and sales & blasting service)
- Indonesia **Hanwha Life** (life insurance)
- Japan **Hanwha Q CELLS** (sales & marketing)
- Japan Acropark Golf (golf club and resort operation)
- Malaysia **Hanwha Chemical** (sales & marketing)
- Malaysia **Hanwha Q CELLS** (producing solar cells, modules, and R&D)
- Singapore **Hanwha Asset Management** (asset management)
- Vietnam **Hanwha Aero Engines** (producing aircraft engine components)
- Vietnam **Hanwha Techwin** (producing video surveillance system)
- Vietnam **Hanwha Techwin Automation Vietnam** (chip moulder sales)
- Vietnam **Hanwha Power Systems** (energy equipment sales & services)
- Vietnam **Hanwha Life** (life insurance)

We have maintained trusted partnerships that have lasted more than 60 years. Together, we have collaborated, invested, and built across markets in almost every continent. Together, we have grown. **Hanwha** has 80 affiliates in South Korea alone and 469 networks around the world (As of the end of December 2020). And as we continue improving quality and innovating to exceed customer expectations, **Hanwha** will continue to grow *beyond* today's interconnected global business environment. This is **Hanwha Group**.

- Bakersfield
- Bremen
- Cerritos
- Chicago
- Forest
- Franklin
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